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**The Lost Tradition:
Changing Interpretations of Music in the
Three Chinese Confucian Ritual Classics
from the Han to the Qing Dynasty**

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Doctor of Philosophy
1994



12 JUN 1995

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Abstract

This thesis examines the influence of the three ritual classics on the development of Confucian musical thought in China from 206 B.C., the beginning of the Han dynasty, to the end of the Qing in 1911.

The musical content of the ritual classics - the Zhouli (The Rites of Zhou), the Yili (The Book of Etiquette and Ceremonials) and the Liji (The Book of Rites) - is analyzed and compared with the ways theorists of different periods had formulated their ideal musical systems.

Writings of followers of the New Text School in the Former Han dynasty are examined to see how the basic elements of music, including pitches, degrees and instrumental timbres, were related to the ritual classics. Particular attention is given to how apocryphal treatises reflect the overall musical ideas of the Liji. Contrasting views of Old Text scholars in the Later Han dynasty are discussed in relation to the musical content of the ritual texts.

Dynastic histories remain the most important source for the investigation of the development of Confucian musical ideas in the Period of Disunity from 220-589 A.D. The enthusiasm shown in finding the correct fundamental pitches was related to the spirit of the ritual classics, but it would not have developed without the intellectual background of the period. The same trend was to continue in the Sui and Tang dynasties (581-907), in spite of the overwhelming influence of Buddhism and foreign entertainment music.

The most significant development in the rediscovery of the ancient musical tradition took place in the Song (960-1279), Ming (1368-1644) and Qing (1644-1911) dynasties, during which there were continuous attempts to apply contemporary interpretations of the ritual classics to improve existing musical practices, leading to a diversity of opinions concerning pitches, degrees, modes, instruments, range and how music should be written, using Zhu Xi's twelve ritual songs from the Yili as a starting point.

It is concluded that scholars of different generations accepted the intimate link between music and the well-being of the state, and were prepared to use the ritual classics to strengthen their arguments, no matter how selectively or how remote these arguments were from the original spirit of the texts.

Note on Transliteration and Translation from Chinese

There are a variety of problems arising in writing on a Chinese subject in a Western language which demands the inclusion of Chinese terms and names. Various systems have been used by writers, varying from that of the more conventional Wade-Giles to the more idiosyncratic form adopted by Rulan Chao Pian and the New Oxford History of Music in the 1960s. In the present thesis, the pinyin system of romanization endorsed by Beijing has been used. Phonetic accents are only provided in the text when there is a need to distinguish different Chinese characters of the same spelling.

Standard translations of Chinese terms, including bibliographic titles, are, when applicable, given in parentheses, while those provided by the author are presented in square brackets.

Contents

Introduction	1
The <i>Zhouli</i> (The Rites of Zhou)	5
The <i>Yili</i> (The Book of Etiquette and Ceremonials)	14
The <i>Liji</i> (The Book of Rites)	18
Changing Attitudes to Music in the Ritual Classics	30
Notes	34
 Chapter 1 The Han Dynasty (206B.C.-220 A.D.): Confirmation of the Moral Value of Music	 35
<i>Yinyang</i> and Correlative Theories of the New Text School	39
Eclecticism Amongst Confucian Scholars	45
Liu Xiàng and Followers of the Old Text School	50
Ban Gu and the Controversy Between New Text and Old Text Schools	57
Notes	64
 Chapter 2 The Period of Disunity (220-589): Confucianism Marginalized	 65
Notes	77
 Chapter 3 The Sui (581-618) and Tang (618-907) Dynasties: The Challenge to Confucian Values in Music	 78
Sui Efforts in Establishing Music	79
Confucian Values in Music Against Buddhist Influence in the Tang	85
The Didactic Role of Music Against Proliferation of Entertainment Music	90
Notes	97
 Chapter 4 The Song Dynasty (960-1279): Confucianism Revitalized	 98
Northern Song Dynasty (960-1127): Early Effort in Formulating an Ideal Performance Tradition	99

Active Debates During the Reign of Emperor Renzong (1023-64)	100
<i>Li Zhao's Restriction to Twelve Pitches</i>	100
<i>The Music Theory of Feng Yuan and Song Qi: Arguments for Sixteen Pitches</i>	103
<i>Ruan Yi and Hu Yuan Challenging Li Zhao's Theory</i>	106
Putting Theory Into Practice: Yang Jie, Liu Ji and Fan Zhen	112
Wei Hanjin and the Dasheng Institute	118
Southern Song Dynasty (1127-1279): Jiang Kui's Interpretation of the <i>Zhouli</i>	124
The Summit of Southern Song Dynasty Discussion in Music: Cai Yuanding and Zhu Xi	128
The Achievements of the Song	150
Notes	152
 Chapter 5 The Ming Dynasty (1368-1644): Further Development of Song Theories	 153
Early Ming Attempts in Improving Existing Musical Tradition	157
Wang Yangming and the Force of Mind	165
Deviations from Wang Yangming's Subjective Approach	171
<i>Liao Daonan</i>	171
<i>Zhang E</i>	173
<i>Han Bangqi</i>	175
Further Development of Wang Yangming's Subjective Ideas: Emergence of Innovative Ideas by Re-defining the Old Tradition	185
<i>Zhang Yu</i>	185
<i>Li Wenchu</i>	188
<i>Liu Lian</i>	192
The Co-existence of Conservative Views: Wang Bangzhi	201
The Culmination of the Liberal Mind of the Ming: Zhu Zaiyu	204
Notes	217

Chapter 6 The Qing Dynasty (1644-1911): Reaction Against Song and Ming Neo-Confucian Trends	218
Early Qing Developments	223
<i>The Conservative Ideas of Ying Weiqian</i>	223
<i>The New Modal Concept of Mao Qiling and Li Gong</i>	226
<i>Li Guangdi and His Interpretation of the Ritual Classics</i>	231
The <i>Lulu Zhengyi</i> (1714-45) and the Early Qianlong Period:	236
<i>The Attempt to Standardize Musical Ideas</i>	236
<i>Wang Xuan and His Reliance on Song Dynasty Theories</i>	245
<i>Jiang Yong and His Admiration of the Distant Past</i>	255
The Later Qianlong Period (1746-95):	263
<i>The Influence of Poetry Songs from the Shijing yuepu quanshu</i>	263
<i>Hu Yansheng and His Preference for Song Dynasty Theories</i>	265
<i>Fang Chengpei and His Reliance on Song Dynasty Ci-poetry</i>	268
From 1796 to the End of the Qing Period: Rapid Decline in the Value Attributed to Music in Confucian Tradition	275
Notes	285
 Conclusion	 286
Glossary	293
Bibliography	320
Appendices	351
1 Music Officials and Their Duties in the <i>Zhouli</i> , 351	
2 Twelve Ritual Songs in Zhu Xi's <i>Yili jingzhuan tongjie</i> , 355	
3 Music from Li Wenchang's <i>Huangming qingong yuediao</i> , 370	
4 Liu Lian's Poetry Songs in <i>Yuejing yuanyi</i> , 376	
5 Zhu Zaiyu's Musical Imitation of Leng Qian in <i>Yuexue xinshuo</i> , 379	
6 Poetry Songs in Zhu Zaiyu's <i>Lulu jingyi waipian</i> , 382	
7 Poetry Songs in <i>Lulu zhengyi houbian</i> , 400	
8 Sheng Pieces in <i>Lulu zhengyi houbian</i> , 410	

- 9 Nie Shuangjiang's Music in Wang Xuan's *Yuejing lulu tongjie*, 422
- 10 Newly Composed Pieces in Wang Xuan's *Yuejing lulu tongjie*, 426
- 11 A *qin* piece *Luming* in Wang Xuan's *Yuejing lulu tongjie*, 430
- 12 Wang Xuan's Newly Composed Piece in *Yuejing lulu tongjie*, 431
- 13 Poetry Songs in *Shijing yuepu quanshu*, 432
- 14 Folk Melody *Wannian huan* (Joy Lasting Ten Thousand Years), 447

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The Lost Tradition: Changing Interpretations of Music in the Three Chinese Confucian Ritual Classics from the Han to the Qing Dynasty

Introduction

The ideals of Confucianism constitute one of the most significant factors contributing to some two thousand years of imperial rule in China. Music occupies the second position among the six branches of Confucian learning, which are rites, music, archery, riding, writing and mathematics. Music has always had a functional as well as a symbolic value in the state and there has been a continuing tradition of belief that its proper administration would guarantee social and political stability, a feature even of Chinese political thought in more recent times. The early transmission of music was made difficult compared with that of rites, their complement, partly owing to the exaggerated effect of the absence of a musical canon, and largely arising from the abstract nature of music itself.

Since the time of Confucius (551-479 B.C.), scholars had begun to value a perfect ancient tradition of music, particularly the six pieces attributed to the legendary Emperors, including Yunmen dajuan (The Great Virtue of the Cloud Gate) by Huangdi, Daxian (The Great Virtuous Ruler) by Yao, Dashao (The Recalling of Virtue) by Shun, Daxia (The Great Xia Kingdom) by Yu, Dahuo (The Great Guard) by Tang and Dawu (The Great Warrior) by Wuwang of the Zhou period. Confucius was recorded as having heard Shao (Dashao) and Wu (Dawu), and as liking the first piece so much that he lost his sense of taste for three months (Lunyu 3.43, 7.98). He did not, however, mention any of the earlier pieces. It is impossible to judge whether the music Confucius heard was authentic, yet his readiness in making an aesthetic and moral judgement was enough to guarantee the existence at that time of an ideal performance tradition. He was also one of the first to draw attention to the existence of licentious music which could ruin the human mind, classifying it as the music of the States of Zheng and Wei (Lunyu 17.274), a judgement comparable to that of

Socrates, in Plato's Republic. Such a distinction of music according to the moral effect on the individual was largely accepted by Confucian scholars, who, almost unequivocally, demonstrated a desire to preserve ancient music, until the disappearance of the Empire in the early twentieth century.

The disciples of Confucius and followers of the Confucian School did not necessarily have the privilege of experiencing the performance of the ancient pieces. Mencius (c.371-289 B.C.) did not mention hearing any of them, but merely advocated the use of these ancient pieces for the education of the general public (Mengzi 1.24). He also held the view that the older the music, the better its moral quality (Mengzi 7.394). Such a nostalgic attitude led to the generalization that contemporary music had a negative effect on the human mind (Mengzi 1.23). The more explicit criticism of music of the living tradition was an indication of awareness of a deterioration in the quality of music, after an earlier, perhaps apocryphal Golden Age. Yet such a phenomenon could be explained on the ground that Mencius lived in an era of greater social and political instability than Confucius, making it harder to maintain the standard of the ancient musical tradition.

By the time of Xunzi (335-238 B.C.), the six pieces of ancient music were referred to as music of the former sage-emperors, indicating clearly the remoteness of the performing tradition, and therefore hinting at the difficulty in its revival (Xunzi 3.4b). He advocated a much more aggressive approach to the use of music as a means to govern (Xunzi 3.5a). Xunzi was one of the first influential followers of Confucius to suggest the spirit of ancient music could be found in contemporary ritual music by outlining the performance sequence of twelve songs of the District Drinking Ceremony, a scheme remarkably similar to that provided in the Yili (The Book of Etiquette and Ceremonials) (Xunzi 3.5b). This pragmatic approach enabled Xunzi to promote the educational value of ancient music without having to investigate its characteristics.

It is a natural consequence that discussions on the moral qualities of music should lead to investigations into its technical aspects, whether the process involved was scientific or not. When Lu Buwei (fl. 239 B.C.) compiled his Lushi chunqiu (Master Lu's Spring and Autumn Annals) in 239 B.C., he was able to suggest more concrete characteristics for good and bad music: the six ancient pieces credited to the virtuous Emperors were believed to be not too loud, too soft, too high nor too low, while music written by decadent Emperors such as Jie of Xia and Zhou of Shang exploited the extremes of instrumentation, dynamics and melodic invention (Lushi chunqiu 5.2a-2b). In general, the merit of music depends on how far it could avoid invoking human emotion. There is an implication, rather unrealistically, that qualities of the ancient pieces could be preserved by these vague descriptions, notwithstanding the earliest piece attributed to Huangdi had been written some 2,400 years before. In any case, these characteristics were to become the basic criteria for appraising music in generations to follow.

It is necessary to bear in mind that Confucius and his disciples only represented one branch of learning during the period of the Warring States (c.480-221 B.C.); there was severe competition between peripatetic philosophers of different schools who tried to gain recognition from the rulers of the seven states. Music, for example, was not considered as an effective tool of administration by the Legalists, Daoists and Mohists, who either regarded its application as too indirect, too limited or too costly. After the First Emperor of Qin (r. 221-10 B.C.) conquered the other six states and established the first Chinese Empire in 221 B.C., he adopted the Legalist policies of rule, focusing on the institution of harsh laws and policies to strengthen the military and economic establishment. There was hardly a place for music, owing to its exclusively moral function. This would certainly have had a negative effect on the continuation of the performance tradition. The famous Burning of the Books in 213 B.C., aiming at the instant removal of all non-Legalist canons, was a great blow

to the preservation and dissemination of Confucian doctrines. The Yuejing (Classic of Music) was believed to have been destroyed in the process, and unlike other classics, it was never reconstructed.

When Confucianism was accepted as the doctrine of ruling in the Han dynasty (206 B.C.-220 A.D.), there was an urgent need to reestablish the classics. By 136 B.C., five of the six original classics had been reconstructed, including the Shijing (Book of Poetry), Shujing (Book of Documents), Yijing (Book of Changes), Lijing (Book of Rituals) and Chunqiu (Spring and Autumn Annals). There was, however, no reference to the Yuejing (Classic of Music). This does not necessarily mean the performance tradition of music had by then disappeared completely. The absence of a canon would mean it was more difficult, if not impossible, to guarantee that the existing musical practices were right. There was also less opportunity for the development of specialist interest in the area: music had to be dealt with by scholars who excelled in the other classics.

The most obvious way to formulate theories on ancient music was to scrutinize classical texts in order to look for any relevant passages. The richest source was the Lijing, a collective name for the three ritual classics, the Zhouli (The Rites of Zhou), Yili (The Book of Etiquette and Ceremonials) and Liji (The Book of Rites), containing information on the institutional, moral and procedural aspects of music from the fifth to third centuries B.C. The musical sources in these ritual texts are more organized than those found in other classical canons, owing to the categorization of information according to topic (Broman 1961:2). They could serve as a convenient replacement for the lost music classic. Once this became a recognized practice, there would be less desire to revive the notional canon, unless there were serious doubts on their content. Musical texts from the ritual classics have provided the bases for Confucian scholars since the Han to restore the lost

tradition. Conformity to the texts was often accepted as a fulfillment of the spirit of the Confucian classics.

The present thesis is based on an analysis of the musical texts of the three ritual classics and an examination of the influence they may have had on the development of musical aesthetics, theories and performance practices from the establishment of the Han dynasty in 206 B.C. to the fall of the Qing dynasty in 1911. The edifying nature of these Confucian texts has led to a narrowing of the meaning of music to the kind which would be condoned by the state and considered morally worthwhile for discussion by scholars, that is, ceremonial music. This would mean, to a large extent, the exclusion of regional folk music, music of the minorities and any music intended for mere entertainment.

The Zhouli (The Rites of Zhou)

The Zhouli (The Rites of Zhou) was written during the period from the fourth to the third century B.C., but only part of it was discovered during the reign of Wudi (140-87 B.C.) of the Former Han dynasty, while the rest of the existing classic was reconstructed by official scholars based on information received from private sources (Hou 1987:26). It was originally called Zhouguan (Ministers of Zhou), but during the brief usurpation of Wang Mang (r. 9-23 A.D.), the scholar Liu Xin (d.23 A.D.) was believed to have augmented the classic and renamed it Zhouli (Hou 1987:27). There is no evidence that Liu had made any changes to the musical texts. Wang Mang's interest in the work was motivated politically: he saw himself as a reincarnation of the first Emperor of the Zhou period (1066-221 B.C.). Any direct association with the ideal past would, in the mind of a newly instituted ruler, contribute to securing the mandate to govern.

The Zhouli was written as a record of the administrative structure formulated by the first Emperor of the Western Zhou period (fl. c. 1066B.C.). Yet there is a gap

of some eight hundred years between the establishment of the Zhou system and the appearance of the text, making it fair to consider the work as an invention to satisfy the desire for the re-creation of an idealized past (Boltz 1993:27). The Zhouli highlights the superiority of the Zhou ruler to the regional lords, who were ranked according to the size of the states they administered, and the distance of their states from the royal capital. The system presented in the text shows how the Zhou central administration worked: the ruler designated a minister of heaven (tianguan) for general policies, a minister of earth (diguan) for education, a minister of spring (chunguan) for rituals, a minister of summer (xiaguan) for defence, a minister of autumn (qiuguan) for punishments and a minister of winter (dongguan) for public works. The smaller states did not have the independence to set up their own administrative system, but had to accept what was instituted by the Zhou ruler. The Zhou system of government had, by the time of the appearance of the Zhouli, become a symbol of success in the maintenance of power within the states. It would have a similar status in the eyes of Emperors since the Han, who relied on Confucian doctrines to rule.

In a document that purports to be official like the Zhouli, it is not surprising that music should fit into the wider context of state rituals. The numbers of people working under each of the twenty senior music officials are laid down under the heading of Spring Minister, who is in charge of rituals (Zhouli 17.8b-13a). The musical establishment accommodates nearly 1,500 officials, without taking the number of dancers into account, which is considerably larger than the Office of Music (Yuefu) set up by the Han Emperor in c.114 B.C. There is a further section under the same heading in the Zhouli which elaborates the duties performed by each of the music officials in varying degrees of detail, according to the rank of the officials concerned (Zhouli 22.1a-24.11b) (Appendix 1).

These music officials are under the command of the Grand Director of Music (dasiyue), who controls the music education of the state and every aspect of ceremonial music. Apart from his assistant, the Music Master (yuesi), each of the remaining eighteen senior officials is assigned specific educational or performance duties. The teaching aspect ranges from the monitoring of the discipline of the pupils to the instruction of instruments, voice and dance. Performers in senior ranks who also have a good general education have to take on additional duties such as teaching and looking after instruments, yet most of them are practically oriented, and are either blind musicians under the supervision of the Master of Blind Musicians (gumeng), or musicians with normal vision under the Music Master with Normal Eyesight (shiliao). In fact, blind musicians are entrusted with more important duties than ordinary musicians. This had become an important aspect of the ancient musical tradition since the Han dynasty, and a subject considered by theorists until the eighteenth century. Another feature of this Zhouli passage is the inclusion of a senior official, the Regulator of Pitches (diantong), for the determination of pitches for the construction of instruments. Indeed, pitches were so important to music scholars that many were prepared to go into complicated philosophical and mathematical theories in order to arrive at the right conclusions.

Officials in charge of drums and dances are under the administration of the Minister of Earth (diguan) in charge of education, presumably owing to their general roles in state affairs. The specifications for bells, sonorous stones, drums and frames for suspended pitched instruments are provided in the section on the Minister of Public Works (Kaogongji), a substitute for the lost chapter on the Minister of Winter (dongguan) (Zhouli 40.16a-41.18b). Although the dimensions and shapes of the instruments described are rarely disputed, there have been numerous suggestions as to the actual length of the measurement units in different dynasties, based on the tenuous ground of numerology, the alignment of millet grains, the discovery of a genuine

Zhou measure, the measurements of the parts of an Emperor's body or even the subjective idea of choosing the standard measurement by linking it to the length of the pitch-pipe that sounded most agreeable. It is apparent that in each case, speculation on the length of the Zhou measure is associated with an attempt to reform an existing musical system. Standardization of length leads to the determination of the right pitches, which would also result in the establishment of units for weight and volume. Emperors since the Qin dynasty have seen these as a symbol of the authority to rule.

, The most influential musical passage from the Zhouli is the detailed description of the duties of the Grand Director of Music (dasiyue). The beginning part of the text gives an overview of the music education system of the Zhou period (Zhouli 22.1a-3b). It is only available to children of high officials, and not the rest of the young population. Basic instruction in the language of music is that in the art of poetry, which consists of a study of its symbolism, the modern application of ancient methods, amplification, rhythmic performance, and when and how to speak and express oneself. The repertoire includes the six ancient pieces of the former sage-emperors, in the form in which they now existed, whether authentic or not. These are Yunmen dajuan, Daxian, Dashao, Daxia, Dahuo and Dawu. They are essential in the cultivation of moral understanding of music, which could be summed up in the six qualities of honesty, harmony, respect, order, piety and brotherly love. Great emphasis is put on the use of twelve pitches¹, divided into six masculine (huangzhong, taicou, guxian, ruibin, yize and wuyi, equivalent to the first, third, fifth, seventh, ninth and eleventh of the twelve pitches of the basic octave) and six feminine (dalü, jiazhong, zhonglü, linzhong, nanlü and yingzhong, equivalent to the second, fourth, sixth, eighth, tenth and twelfth of twelve pitches of the basic octave), five degrees² of a mode³ (gong, shang, jue, zhi and yu) and eight sources of instrumental sound (metal, stone, silk, bamboo, gourd, earth, skin and wood). Proper use of these

basic elements of music remained a primary concern for music scholars in different generations, owing to the belief that these had a direct influence on the moral quality of music. The theories of scholars were of little or no relevance to forms of music other than the ceremonial, but there the significance, in theory at least, was very considerable, affecting the well-being of the state and the mandate of Heaven bestowed on the Emperor.

The fact that only potential administrators of the state have an opportunity to learn music highlights the importance of the subject. The close relationship between poetry and music is demonstrated here by the adoption of intellectual skills in the recitation of poetry in the teaching of music. Some Confucian scholars have even gone to the other extreme, regarding the Shijing (Book of Poetry) as the lost Classic of Music. The six ancient pieces are believed to be essential in the development of virtuous character of the selected few, who could then influence the rest of the population. The idea of maintaining social order by advocating a high moral standard amongst individuals appealed to Confucian officials of different dynasties. The Zhouli is not the only early source which refers to basic elements of music such as the twelve pitches, five degrees and eight sources of instrumental timbre, yet it serves to consolidate these fundamental qualities in Chinese music. Even the most controversial theorist would not challenge their validity.

The Zhouli also provides some information on how the six ancient pieces are performed in rituals under the administration of the Grand Director of Music:

Episodes of Music, Dance and Worship			
Instrumental Performance (Masculine Pitches)	Vocal Performance (Feminine Pitches)	Dance	Worship
Huangzhong	Dalu	Yunmen	Heavenly Spirit
Taicou	Yingzhong	Xianchi	Earthly Spirit
Guxian	Nanlu	Dashao	Four Distant Objects

Ruibin	Hanzhong	Daxia	Mountain and Rivers
Yize	Xiaolu	Dahuo	Jiangyuan (Mother of Houji)
Wuyi	Jiazhong	Dawu	Former Emperors

(Zhouli 22.7b-11a)

The fact that these pieces are referred to as dances accompanied by instrumental and vocal ensembles shows the composite nature of ancient ceremonial music, and therefore the large number of performers involved. The importance of each of the ceremonials is illustrated by the age of the ancient piece designated, and the hierarchy of the accompanying masculine and feminine pitches, which have generally been interpreted as the names of modes, of which they are the final. The masculine pitches ascend from the fundamental pitch huangzhong in a whole-tone, while the feminine pitches, with hanzhong and xiaolu representing linzhong and zhonglu respectively, descend from yingzhong to jiazhong in the same relationship.

The most important of the six rituals listed is that for heavenly spirit, owing to the performance of the piece Yunmen, believed to be composed by the oldest and most respected legendary Emperor Huangdi, and the choice of the first masculine pitch huangzhong for instrumental ensemble, and the first feminine pitch dalü for singers. The least important amongst the six rituals is the one for former Emperors, which includes the piece Dawu composed by Wuwang of the Zhou period, appearing some 1,500 years later than the work by Huangdi, and based on the sixth masculine pitch wuyi. The juxtaposition of pitches in this passage has inspired numerous theorists of different periods in the establishment of ceremonial music.

Each of these ancient pieces has six sections, and after each section is performed, a particular family of animals and venue will be invoked:

Section	Resulting Invocation
First	Feathered Creatures, Lakes and Rivers
Second	Creatures Without Feathers, Mountains and Forests
Third	Creatures With Scales, Mountains and Hills
Fourth	Hairy Creatures, High and Low Plains
Fifth	Creatures With Shells, Earthly Spirits
Sixth	Heavenly Creatures (Chinese Unicorn, Phoenix, Tortoise, Dragon), Heavenly Spirits

(Zhouli 22.11b)

This gives an impression that these ancient pieces not only could improve the moral quality of human beings, but have the power to influence living and non-living elements of nature. Again, there is a clear distinction of hierarchy: the first section of a piece can only affect those sensitive but commonly available animals such as birds, and sources of water, while the sixth section has the potential to induce rare creatures and heavenly spirits, the last a symbol of supreme significance. Music theorists who endorsed these mystic musical qualities would take the Zhouli seriously, while those who did not tended to use this passage as an excuse to question the validity of the classic.

In addition to the six rituals, the Zhouli provides a more detailed scheme for the performance of music at the ceremonials for heavenly spirits, earthly spirits and human spirits, specifying the music, the system of modes, the instruments and venue in each case:

Absolute Pitches/ Degrees and Modes	Instruments	Dance	Effect
Huanzhong (jiazhong) as Gong Huangzhong as Jue Taicou as Zhi Guxian as Yu	Leigu (six-sided drum), Leitao (six-sided suspended drum), Guan (flute) made of solitary bamboo, Qin (five-string plucked instrument) and Se (25-string plucked instrument) from Yunhe	Yunmen, six sections, performed in winter solstice at the Round Hill	Descent of heavenly spirits, rites completed
Hanzhong (linzhong) as Gong Taicou as Jue Guxian as Zhi Nanlu as Yu	Linggu (four-sided drum), Lingtao (four-sided suspended drum), Guan made of young bamboo, Qin and Se from Kongsang	Xianchi, eight sections, performed in summer solstice at the Square Hill in lake	Appearance of earthly spirits, rites completed
Huangzhong as Gong Dalu as Jue Taicou as Zhi Yingzhong as Yu	Lugu (two-sided drum), Lutao (two-sided suspended drum), Guan made of bamboo from the north of the mountains, Qin and Se from Longmen	Songs of Nine Virtues, Dashao, nine sections played at temples	Human spirits appear, rites completed

(Zhouli 22.13b-14a)

There is a distinction of the hierarchy of the three rituals based on the music chosen, the time and location of the performance, the nature of the instruments and the modes of the music. The ritual for heavenly spirits, for example, is the most important of the three. It involves the performance of the most ancient piece of music Yunmen written by Huangdi, at the winter solstice, the symbol of masculinity (yang), and at the Round Hill, a geometric representation of heaven. The instruments

listed include special kinds of drums, bamboo flutes and plucked string instruments, belonging to the families of skin, bamboo and silk according to the traditional classification of eight sources of instrumental timbre. This does not necessarily mean that the other types of instruments are excluded; the three classes of instruments are named because they are specially reserved for these rituals. The most widely accepted way to interpret the pairing of the pitches huanzhong (jiazhong), huangzhong, taicou and guxian with the degrees gong, jue, zhi and yu is to regard each combination as the name of a mode.

Yet there are different ways of explaining these modes, largely owing to the proliferation of foreign and popular music from the period of the Six Dynasties (220-581). This arises from the interpretation of the character wei (is, acts as), which has a different meaning when it is replaced, as by some later commentators, by the character zhi (genitive "of"). This means, for example, that "huangzhong as jue" is taken as "the first pitch huangzhong is the third degree jue", while "huangzhong of jue" is treated as "the third degree jue of the first pitch huangzhong". In other words, if huangzhong is the pitch C, "huangzhong as jue" means the third degree jue is the pitch C, while "huangzhong of jue" means the third degree jue of the pitch C, that is, the pitch E. In addition to these two common interpretations, there were other more idiosyncratic theories arising from this Zhouli passage in the Ming and Qing dynasties.

A careful examination of the texts reveals that the mode based on the second degree shang is not prescribed in the music of any of these rituals. This has led to the accusation of Han and Tang commentators, like Zheng Xuan (127-200) and Jia Gongyan (fl. c.650), that ceremonial music of the Zhou period excluded the shang degree, owing to its piercing nature and its association with the element of metal, in conflict with the element of wood which represented the house of Zhou. This purely scholastic theory has been open to challenge by the more practically oriented

scholars, and particularly by the Song neo-Confucianist master Zhu Xi (1130-1200), who insisted on the use of the shang degree (Zhuzi quanshu 37.23b).

The authenticity of the Zhouli can be assessed by comparing the officials described in the text with those identified in other sources. The fact that only one third of them are identified as genuine titles of the Zhou period casts some doubt on the reliability of the ritual classic (Broman 1961:66). It is also one of the most controversial classics, owing to its association with the introduction of revolutionary policies by political figures of different periods. Yet once a Confucian music scholar has decided to draw inspiration from the Zhouli, historical accuracy might not be as important as the compatibility of his theory with the classical text. After all, it provides, amongst the three ritual classics, the most complete account of the technical side of ceremonial music in the pre-imperial era.

The Yili (The Book of Etiquette and Ceremonials)

Whereas the Zhouli sheds light on the structure of the state in the late Zhou, the Yili gives detailed accounts of the actual proceedings of some of the rituals and ceremonials, notably those of the educated class, in roughly the same period (Boltz 1993:237). The text covers events such as weddings, banquets, sacrifices, funerals and archery contests, and it uses, as in the Zhouli, plain language. The sections on ceremonials of banquets and archery contests at district and state levels provide some information on musical performances on these occasions. In each case, the number and positions of musicians, the repertoire of music and the order of performance are outlined.

The most noticeable musical influence of the Yili is the music repertoire it provides in connection with these ceremonials. The ceremonial for district banquets has been an important source for scholars of different periods who tried to re-create a music system which had some connection with the past. The text lists the titles of

eighteen poems from the Shijing (Book of Poetry), which are to be performed in a fixed sequence:

Title of Poem	Type of Poem	Nature of the Music
Luming (Call of the Deer)	Xiaoya (poem about lower level of administration)	Vocal Piece
Simu (Four Steeds)	Xiaoya	Vocal Piece
Huanghuang zhe hua (How Glorious are the Flowers)	Xiaoya	Vocal Piece
Nangai (The Southern Steps)	Xiaoya	Sheng (mouth organ) Piece
Baihua (White Blossoms)	Xiaoya	Sheng Piece
Huashu (The Millet in Flower)	Xiaoya	Sheng Piece
Yuli (Beautiful Fish)	Xiaoya	Vocal Piece
Yougen (All in Their Kind)	Xiaoya	Sheng Piece
Nanyou jiayu (There are Fine Fish in the South)	Xiaoya	Vocal Piece
Chongqiu (All to Their Best)	Xiaoya	Sheng Piece
Nanshan yutai (The Flat Part of the Hill)	Xiaoya	Vocal Piece
Youyi (Perfect Etiquette)	Xiaoya	Sheng Piece

Guanju (Guanguan go the Ospreys)	Folk Poem (Zhounan)	Vocal and Instrumental Ensemble
Getan (The Fibre Plant spreads Far and Wide)	Folk Poem (Zhounan)	Vocal and Instrumental Ensemble
Juan'er (Mouse Ear)	Folk Poem (Zhounan)	Vocal and Instrumental Ensemble
Quechao (The Magpie's Nest)	Folk Poem (Shaonan)	Vocal and Instrumental Ensemble
Caifan (Gathering the Southern Wood)	Folk Poem (Shaonan)	Vocal and Instrumental Ensemble
Caipin (Gathering the Duckweed)	Folk Poem (Shaonan)	Vocal and Instrumental Ensemble

(Yili 4.17b-26b)

There are three ways of performing these poems: they can be sung, presumably with a small instrumental ensemble, or played as instrumental pieces for the sheng, or sung in a grandiose style with full instrumental accompaniment. Twelve of the eighteen poems are classified as Xiaoya (poems about the lower level of administration), which are written by the educated class of the Zhou period to express their feeling towards administrative policies of the state. There is a general consensus amongst Confucian scholars of different generations that these poems with political orientations were popular in the Zhou dynasty, and their original musical settings had all the qualities of a perfect tradition. The inclusion of a large number of Xiaoya poems in district banquet ceremonial helps confirm the antiquity of the ritual. The original texts for the six sheng poems were lost when Zheng Xuan (127-200) wrote commentaries for the ritual classic (Yili 4.21b). While it is logical to suggest that the ancient practice was to treat these as titles for instrumental pieces, some

Confucian scholars in the Ming and Qing dynasties held the view that music could not exist without poetry, and invented new texts for these lost poems.

Three of the six folk poems included in the ceremonial are folk poems of the state of Zhou (Guanju, Getan and Juan'er), while the remaining three (Quechao, Caifan and Caipin) are from the state administered by the duke of Shao. They are believed to have high moral value, owing to the importance of these states. The Song neo-Confucian master Zhu Xi (1130-1200) provided musical settings for twelve poems with texts in his Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries), and inspired numerous imitations in later generations.

The music is more limited in district archery contests, during which the main repertoire consists only of the folk poems Guanju, Getan, Juan'er, Quechao, Caifan and Caipin (Yili 5.14a). The music for state banquets is strikingly similar to that used at the district level, with the same eighteen pieces performed in the same order (Yili 6.24a-27a). The only apparent difference lies in the performance of the more dignified piece Sixia in the welcoming of the guests (Yili 6.43a). In spite of the superiority of state ceremonials over those held in the districts, the music at district banquets had more influence on Confucian scholars after the Song dynasty, largely owing to the inclusion of twelve musical settings in Zhu Xi's ritual treatise.

Music for state archery contests includes Luming in the ceremonial proper, Sixia for the welcoming of guests, Lizou for the accompaniment of the shooting contest, and Gaixia for bidding farewell to guests. In addition, the classic gives an account of the instruments, including the shengqing, shengzhong, bo (large bell), jiangu (drum on a stand), yingpi (small drum), songqing, shuopi, tang and tao (hand drum with beaters), and their relative positions in the ceremony (Yili 7.6a-9a). Some of these do not refer to specific instruments; they only indicate the relative positions of the instruments in the ensemble. For example, the shengqing and shengzhong are

general names for sonorous stones and bells located at the east, songqing are sonorous stones at the west, and shuopi is a small drum at the north. Tang is a general term for wind instruments made of bamboo. This passage focuses on instruments such as bells, sonorous stones and drums, which are associated with dignitaries, the participants in the ceremony. Although there is no direct reference to the number of frames of suspended pitched instruments, it is apparent from the text that they are arranged on four sides, that is, what the later Han commentators referred to as gongxuan, an arrangement for Emperors.

The Yili was the most important ritual classic in the Former Han dynasty (206 B.C.-23 A.D.) (Jiang 1983:323). It had lost some of its importance towards the end of this period, owing to the promotion of the Zhouli by Wang Mang and Liu Xin, but it regained its position when Zhu Xi declared it as the principal ritual canon in the Song dynasty. The Yili is the only classical source which provides information on ceremonial music in the context of its performance. The repertoire it provides has the advantage over the Zhouli's six lost ancient pieces, because the texts of twelve of the eighteen poems listed in some of the Yili ceremonies exist independently in the Shijing, making it easier for Confucian scholars to believe they could re-create the old tradition.

The Liji (The Book of Rites)

The Liji was compiled by Confucian scholars during the Former Han dynasty based on writings of the fourth and third centuries B.C., particularly those of Xunzi (335-238 B.C.), the principal reason for its incoherence in style and content compared with the Zhouli or Yili (Fehl 1971:107). The fact that it was drawn from a variety of sources makes it the most difficult to gain recognition amongst the three ritual classics. Yet it is the easiest ritual text to read, owing to its non-technical nature; it endeavours to illustrate the moral significance of different aspects affecting the

cultivation of the character of an individual. The Liji is organized under forty-nine headings covering a variety of topics from personal rituals such as mourning, birth, bestowing the cap of manhood and marriage to regional and state ceremonials. It also includes discussions on the significance of music and general comments on different levels of education. In many cases, important ideas are put across by quoting moralizing conversations between Confucius and his disciples, a sign of the recognition of the high status of the sage (Riegel 1993:295).

Indeed, the moralizing nature of the Liji makes it easier for it to survive social and political changes of different dynasties. The Zhouli's emphasis on an ideal administration system would be difficult to implement in the Qin or Han dynasties owing to the disintegration of the feudal states. The same would theoretically apply to the Yili's ritual procedures. Even if there was no challenge to the authenticity of the content of the Zhouli and Yili, the reference to such a large number of technical terms concerning administration and ritual procedures would have made it difficult for scholars of later generations to decipher. In fact, scholars in the seventh century already found it difficult to understand the Yili. On the other hand, the Liji is of a more general edifying nature. It is also timeless, in the sense that an individual of any period could interpret the meaning of virtuous human behaviour under their own circumstances and apply it to other individuals of the state. This appealed to the practically oriented scholars in the Song dynasty, particularly Zhu Xi, who regarded it as the most important ancient source to interpret the Yili. Zhu Xi's view was further developed by Confucian scholars during the classical revival in the Qing dynasty. By then, they believed it was not possible to make sensible use of the Zhouli or Yili without referring to the Liji.

One of the most influential musical passages from the Liji is the chapter Yueling (Monthly Commandments), which relates astrology to different aspects of the administration of the state in the order of the calendar months. Such an idea of

correlation between nature and state affairs is important in the Confucian state, owing to the supreme role bestowed on the Emperor in communicating with heaven. The text also appears in similar forms in Lu Buwei's (fl. 239 B.C.) Lushi chunqiu (Master Lu's Spring and Autumn Annals) and Liu An's (179-122 B.C.) Huainanzi (The Book of Master Huainan), a testimony to its wide influence.⁴

The celestial positions in each month are related to almost every aspect affecting the well-being of the state. These include the influence of a particular sage-emperor, the kind of animals which are active, the most suitable degree and pitch, the prevailing taste and smell, the specified sacrifice, things related to the Emperor such as his residence, his robes, his food, his dining set and his duties, matters related to agriculture and education, and military decisions. This confirms the theory that the basic elements of music had been regarded as essential qualities of a complicated structure which could only change with the others, and according to a fixed time schedule beyond the control of human beings. The degree(s) and pitch(es) governing each month are as follows:

Order of Month	Season	Degree	Pitch
First	Early Spring	Jue	Taicou
Second	Middle Spring	Jue	Jiazhong
Third	Late Spring	Jue	Guxian
Fourth	Early Summer	Zhi	Zhonglu
Fifth	Middle Summer	Zhi	Ruibin
Sixth	Late Summer Mid-year	Zhi Gong	Linzhong Huangzhong
Seventh	Early Autumn	Shang	Yize
Eighth	Middle Autumn	Shang	Nanlu

Ninth	Late Autumn	Shang	Wuyi
Tenth	Early Winter	Yu	Yingzhong
Eleventh	Middle Winter	Yu	Huangzhong
Twelfth	Late Winter	Yu	Dalu

(Liji 15.1a-17.30a)

Such an attempt to relate the fundamentals of music to time and space was to be followed by more speculation on numerology in the Han dynasty. The twelve pitches, divided into six masculine and six feminine, are juxtaposed with the twelve calendar months in a manner which allows huangzhong, the first masculine pitch, to dominate the eleventh month, which represents the winter solstice, the moment when masculine (yang) force arrives, and the sixth month, the division line between summer and autumn. The three months of each season are governed by either the shang, jue, zhi or yu, that is, the second, third, fourth and fifth degrees of the pentatonic mode. The first degree gong is reserved for the sixth month, and, together with the huangzhong, occupies a central position. This idea of centrality is further exemplified by the section entitled Yueji (Book of Music) in the same classic, where the gong degree is referred to as the Emperor in the hierarchy of the state.

The fact that the twelve fundamental pitches are related to the twelve months gave rise to the belief that it was possible to verify the accuracy of the pitches in an exercise known as houqi, that is, watching for the arrival of the ethers. It was based on the theory that correctly tuned pitch-pipes would respond to forces of nature at designated times in the year. The practice in the Han dynasty involved the preparation of twelve pitch-pipes corresponding to the fundamental pitches of the existing music system, and allowing them to wait for the arrival of the ethers by burying one end of each pitch-pipe in the soil, while filling the other end with ashes from the pith of reeds, in an air-sealed chamber. Theoretically, the ethers should

arrive when the yang and yin forces from heaven and earth meet, and would blow the ashes of the corresponding pitch-pipe at the right moment, if a particular pipe was correctly tuned. The most important experiment applied to the huangzhong pitch-pipe, which was believed to be activated by forces of nature at the beginning of the winter solstice. The successful outcome of houqi would reinforce the authority of the Emperor, given the symbolic significance of correct pitches and measuring standards to the administration of the state. In the Song dynasty, some theorists regarded it as a process for the determination of correct pitches, rather than that of verification: a musical system could not be established without finding the correct pitches. This remained a subject of debate until the mid-eighteenth century.

The most obvious passage which would inspire any Confucian scholar is the section called the Yueji (Book of Music). It has been pointed out that a large part of it is derived from the writings of Xunzi on the subject (Riegel 1993:295). Some passages can also be found in the music sections of Lu Buwei's historical work Lushi chunqiu. The text also exists in similar form in the music section of Sima Qian's (c.145-? B.C.) Shiji (Historical Records). The variety of sources makes it more difficult to identify the author of the passage, yet it is an indication that its content was widely known to Confucian scholars at the beginning of the Han dynasty.

The Yueji emphasizes the close relationship between rites, music, punishments and administration, which are essential qualities in maintaining the high moral standards of individuals and the order of the state. This echoes Xunzi's somewhat pessimistic view that human character is born to be defective, and these man-made measures are necessary to counterbalance the deficiency (Fung 1952:298). In this context, music has a very restricted meaning: it only includes performances endorsed by the state, that is, ceremonial music, which is also referred to as music of the peaceful state (zhishi zhiyin), music of the ancient sages (xianwang zhiyue), great music (dayue), ancient music (guyue), virtuous music (deyin), serious and glorifying

music (yasong zhisheng). The availability of such a variety of terms not only indicates the desire to provide a moral definition for ceremonial music, but also the difficulty in arriving at a simple conclusion.

Ironically, it is the somewhat verbose and repetitive nature of the text of the Yueji which makes it easier to read. Yet it creates difficulties in working out a logical sequence for the different passages. A possible way to interpret the text is to consider it under three aspects: these include passages concerned with the origin of music, those dealing with the relationship between rites, music and other qualities, and those relating to the character development of an individual. It is the first and third categories of text which have frequently been discussed by Confucian scholars in formulating ceremonial music.

The Yueji discusses the origin of music by distinguishing sound, pitches, music and the composite performance of music and dance:

Music originates from within the heart, which can only be activated by external objects. Sound is created when there is a response to external objects. Sound can respond to sound; it can also transform. If the transformation is orderly, it will result in the formation of pitches. Music is created when pitches are put in order, and dance paraphernalia including shields, axes, feathers and tassels are properly incorporated into it.

(Liji 37.1a-1b)

The creation of music depends on first transforming the basic level of sound to pitches, which can only take place passively in the human heart. This is due to the more important role played by external objects, which can include sound created by nature, or at a more sophisticated level, factors affecting human emotion, a common source being poetry. In other words, the basic elements of music have a strong relationship to human experience. Active human participation is, however, essential in the creative process of organizing pitches into music, and the incorporation of music into dance performances in ceremonials. The shields and axes are paraphernalia for military dances (wuwu), while feathers and tassels are for performers of civil dances (wenwu).

In spite of the seemingly classless and objective origin of music, the Yueji emphasizes the fact that the composition of music is restricted to ancient sage-rulers: "Therefore rituals and music were established by the rulers of the past in order to regulate the moral standards of the people." (Liji 37.11b) It is natural to assume that these idealized figures had the necessary personal qualities to create music. Yet it is also possible for any Emperor to take on the same task, so long as he realizes the creation of music and rites is to fulfill his role as a mediator between heaven and earth (Liji 37.18a-20b). This is a pragmatic approach to allow the tradition of creating music to continue. Such an effort to link the divine powers of heaven and earth with the Emperor was to be exploited by scholars of the Former Han dynasty. In fact, the idea of sagehood varies throughout the history of China. For example, supporters of the Song neo-Confucianist Zhu Xi thought it was possible to acquire sagehood by learning from books, while those in favour of the humanist approach of Wang Yangming in the Ming dynasty would argue to attain the same status by the less academic way of self-cultivation. The result is that theoretically any individual can compose music, provided he can demonstrate he has a high moral standard.

Having established the strong relationship between music and a virtuous individual, the Yueji applies the same concept to a higher level, and explores how music can reflect the well-being of a state:

The music of a peaceful state is peaceful and relaxed, which reflects good administrative order. The music of a disordered state is full of complaints and anger, which is a sign of poor state policies. The music of a state falling into ruin is sad and frustrated, and is an indication of great despair amongst the people. Music is therefore closely related to the administration of the state.

(Liji 37.4a)

The quality of music varies according to different social and political circumstances. The focus here is entirely on the moral aspect of music; there is no attempt to investigate the technical side of musical performance. The state of mind of individuals is the most crucial factor in identifying the music for each of the three

conditions of the state. Music therefore serves as a vehicle in linking individuals to the state. The implication is the quality of music has to be controlled, if the state is to maintain its order.

A natural consequence is to analyze the state so that its constituents relate to those of music: "The gong degree represents the Emperor, the shang degree ministers, the jue degree people, the zhi degree affairs, and the yu degree matter." (Liji 37.5a) The five degrees of the pentatonic mode are therefore defined in the context of the hierarchy of the state, in human and non-human terms. The order of the state depends on the orderly presentation of these five degrees: there should not be any disorder in the arrangement of these basic musical elements, nor indeed any disharmony, or wrong intonation within individual degrees. The state will suffer according to the extent of the disorder of the five degrees:

Disharmony of the gong degree leads to slack administration, because the Emperor is too proud of himself. Disharmony of the shang degree leads to disorder, because ministers are incompetent. Disharmony of the jue degree leads to unnecessary worries, because people are dissatisfied. Disharmony of the zhi degree leads to misery, because state affairs are beyond the control of the officials. Disharmony of the yu degree leads to the state being in jeopardy, because there are financial problems. If all five degrees are disharmonious, and they are organized without due respect given to the hierarchy of the state, there will be a general disorder. In this case, it will not be long before the state will be ruined.

(Liji 37.5a)

It is obvious that such a comparison is biased towards the social, political and economical consequences of a disturbance of the balance of the five important elements of the state. The close relationship between the five degrees and the five hierarchies of the state is enough to assume that musical qualities can influence the order of the state; there is no intention to prove that such a relationship really exists. This is akin to the logic behind the correlative ideas promoted by some Confucian scholars in the Han dynasty (DeWoskin 1982:94). There is little distinction between the detrimental effects of the different degrees when there is disharmony. Basically, it is necessary to avoid disharmony in any degree if the state is to maintain its order.

When the moral classification of the five degrees was put into practice by Confucian scholars in the Song dynasty (960-1279), the most noticeable outcome was the provision of music which endeavoured to maintain the hierarchy of the five degrees. This essentially meant the gong degree had to be kept below the shang degree, and the shang below the jue degrees in a particular piece. This had in turn affected the methods of constructing instruments, especially those associated with the performance of ceremonial music, such as the bianzhong (bells on a frame) and bianqing (sonorous stones on a frame). The same passage has also influenced the performance practice of ceremonial music in Korea (Provine 1988:158-60).

The Yueji emphasizes the correct handling of the five degrees, instruments and dance paraphernalia, so that the music produced should be simple enough not to arouse human emotions (Liji 37.13b). The idea of regarding simplicity as the highest musical standard is akin to the Daoist definition of the perfect musical tradition as one which is free from human influence. The moral qualities of music therefore take precedence over artistic sophistication. The appreciation of music lies not in its external, but in its internal qualities, and outside the realm of the physical world:

Great music does not exploit the extremes of sound effects. Similarly, the essence of the Dining Ceremony lies not in the taste of the food. The se accompaniment for the song Qingmiao will echo because the red string is mounted below a sound box with widely-spaced holes. After the soloist sings the song, it is repeated by a three-piece vocal ensemble. Music is still heard after the musicians have stopped performing. The dark wine consumed in the ceremony is in fact water, while the fish is raw, and the soup tasteless. Yet it is still possible to feel the taste of the food.

(Liji 37.8a-8b)

The analogy between the music and food provided in the Dining Ceremony reiterates the importance of reducing the physical attraction of these qualities. Music will lose its moral value if it arouses human emotion. The reference to the structure of the sound-box of the se is to illustrate that music should stimulate the human mind, but not human senses. The same applies to the performance of the singers in the ceremony. In more concrete terms, music should be rhythmically simple, unison

between instruments and voices, slow in tempo and simple in melodic shape (Liji 38.5b). These criteria have rarely been challenged by Confucian scholars in the formulation of music theories of the ideal past.

Since the Yueji emphasizes the fact that the creation of music lies in the hands of the Emperor, it is ironical that the classic admits the presence of music which has the potential to damage human character:

The music of the states of Zheng and Wei was created during a period of turmoil, when the people were out of control. The music of Sangjian at the upper end of the River Pu was the music for the state falling into ruin, where there were no rules, and the people were not governed. Ordinary people challenged the power of the officials to gain self satisfaction.

(Liji 37.7a)

The origin of music that has a negative influence on moral standards is associated with the decline of the authority to rule. It is under such kind of political uncertainties that ordinary people have a chance to take over the task of creating music, and the outcome will inevitably amplify the problems of the state. This helps reiterate the importance of preserving the moral quality of music. In fact, Confucian scholars had been referring to the music of the states of Zheng and Wei, or the music of Sangjian at the upper end of the River Pu, as general terms to describe music of poor quality. In an anecdotal passage about the conversations between Prince Wen of Wei and Confucius' disciple Zi Xia, the music of two other states, Song and Qi, are also put into this category:

The Prince said, "Can you describe the origins of music that will weaken the human mind?" Zi Xia replied, "Music of the state of Zheng is licentious and it confuses the human mind. Music of the state of Song consists of the delicate voices of women and it corrupts the human mind. Music of the state of Wei is fast and it confuses the human mind. Music of the state of Qi is proud and it distorts the human mind. These four types of music satisfy the desire for enjoyment, and are therefore harmful to morality.

(Liji 39.3b)

The Yueji classifies bad music according to the negative effects it may have on human character. The music of the states of Zheng, Song, Wei and Qi referred to

in the passage is the folk-music of these regions where the feudal Zhou ruler had less influence. In general, music which creates an emotional impact on human beings is to be avoided; this includes music which is too weak, too excited, too loud, too rough, too abrupt, too licentious and too devious (Liji 38.5b-6a). These are important guidelines for Confucian scholars of the Han and later dynasties in the assessment of the qualities of music promoted by the state. The derogatory remarks about the nature of folk music in the ritual classic become useful excuses for its inhibition.

The Yueji, and the Liji as a whole, represent the culmination of Confucian ideas in the era after the death of Xunzi in 238 B.C., when Confucianism had been revitalized after the more liberal attitude of Mencius (c.371-289 B.C.) (Gao 1963:19). The moral orientation of the ritual classic makes it a useful complement to the more technical texts of the Zhouli and Yili. It also enables the Liji to distinguish music according to its effects on the individuals and the state. The ritual classics have long served as a convenient substitute for the allegedly lost Classic of Music, yet the role of a particular classic, or indeed a particular musical passage, varies according to the ways these are interpreted.

It must, however, be pointed out that Confucian scholars of different generations in China believed it was a matter of pride and duty to formulate ideas on a perfect tradition of music. They were not particularly concerned with practical matters related to performance, which were considered to be intellectually less demanding, and could therefore be left to practical musicians. Any study based on the influence of the three ritual classics would principally rely on sources provided by the literati class, and therefore be theoretical. The degree of sophistication of theories varied according to the inclination and musical knowledge of an individual. Some were satisfied with a general emphasis on the importance of yayue, while others, particularly those well-read in the subject, would explore different theoretical aspects in great depth. The ritual classics themselves contain no music, but give

instructions, open to varied interpretation, on the positions of instruments and performers, the modes of certain rituals and the order of music to be performed. Apart from these, and the variously interpreted matters related to pitches, degrees and modes, the classics give no direct indication of performance style.

Considerable effort had been put into the study of pitches, owing to the belief that they had a direct influence on the quality of music, and the fact that they affected other standards of measurement.⁵ The discussion of degrees and modes did not involve much academic rigour; theorists merely changed between the pentatonic and heptatonic modes according to their needs. The designation of modes was usually limited to five, owing to the accepted tradition of the exclusion of the two bian degrees as initials or finals of a piece of music. The Zhouli's provision of four modes, gong, jue, zhi and yu, in the three categories of sacrificial music had been the model for many theorists, while some had doubts about the omission of the shang mode.

Scholars, particularly since the Song dynasty, had also been concerned with the range to be used in a piece of music, largely owing to its intimate relationship with the quality of the music. There had been a trend to limit the range of yayue to its basic octave; any extension beyond this had to be justified on moral grounds. This had a direct influence on ideas of how music should be written, and on the design of instruments.

Practically speaking, theories on pitches could affect the construction of instruments, while ideas on degrees and modes could be realized in compositions. Yet most scholars were satisfied with the discussion of pitched instruments such as the bianzhong and bianqing, while ignoring the characteristics of the other instruments used in the performance of yayue. Idealized examples of yayue were inevitably provided in notation specifying pitches, with little information on how the music was to be performed in terms of the number of singers and instrumentalists,

and how diverse musicians should fit into ensemble performance. There has been a custom of assuming the existence of a performance tradition, even though what the theorists proposed was supposed to improve this to bring it back to the supposed practice of earlier times.

Changing Attitudes to Music in the Ritual Classics

The Han dynasty was a period of consolidation for the doctrine of Confucianism and therefore saw active discussion on the interpretation of the classics. The Yili, concentrating on the technicalities of ceremonials, was the earliest ritual classic to gain recognition amongst Confucian scholars. As the learning of the New Text School, based on a memorial reconstruction of Confucian texts after the Qin burning of the books in new script developed, the close relationship between music and the well-being of the state in the Liji was reinforced by the theories put forward by the staunch Confucian scholar Dong Zhongshu (179-104 B.C.), who allowed music to play a part in his global view of the universe as heaven, earth and man. There was, of course, also a branch of Confucian learning, epitomized in the writings of Jia Yi (201-169 B.C.) and the Apocryphal Books, which associated music, for example, with theories of yinyang, the five phases and natural phenomena. The relatively straightforward moral definitions of degrees, pitches and instruments, were explained in broader terms in a rather artificial manner.

The later part of the Han dynasty was dominated by the Confucian learning of the Old Text School, based on the alleged recovery of pre-Qin Confucian texts in old script, which was credited with the re-discovery of the Zhouli, a classic outlining the idealized administrative structure in the Zhou period (1066-221 B.C.). The moral significance of music was promoted without the complicated theories associated with the New Text School.

It can be argued that the ideas of music in the ritual classics also had a place during the turmoil of the Period of Disunity (221-589 A.D.), when at first Daoism and later Buddhism had tremendous influence at court, owing to the temptation to use music as a means to bring about stability. This became more obvious in the Tang dynasty (618-907), when Zhang Wenshou (fl. 620) attempted to bring new moral standards to ceremonial music, according to the spirit of the three ritual classics during the reign of Taizong (627-50). Even the notorious Empress Wu (r.690-704), with her anti-Confucian beliefs, echoed the musical ideas of the Liji in her Yueshu yaolu (Records of the Essentials in the Book of Music), notwithstanding her close connection with Buddhism. In spite of the rapid expansion of entertainment music during the reign of Xuánzong (712-56), the Emperor declared his intention to determine the right pitches for ceremonial music to meet Confucian musical ideals exemplified in the ritual classics. This somewhat restrained effort did not, of course, lead to much development in the area. Nevertheless, scholars such as Han Yu (768-824) and Bai Juyi (772-846) were quick to point out the danger of relegating music endorsed by the ritual classics to a subsidiary position.

The intellectual era of the Song (960-1279), stemming from the apparent failure of relying on Daoist and Buddhist doctrines to govern the country and the inevitable switch to Confucian doctrines, led, during the earlier part of the dynasty, to a series of active discussions on fundamental qualities of ceremonial music, and resulted in an unprecedented enthusiasm in establishing the correct pitches and other music practices. Indeed, the question of pitches was to be taken up by Cai Yuanding (1135-98) in the Southern Song Empire (1127-1279), who relied heavily on the somewhat dubious use of heavenly and earthly forces in Watching for the Ethers, a practice partly derived from a chapter in the Liji, to determine the right fundamental pitch of the bamboo pipe by means of trial and error. A turning-point in the writing of musical treatises was the publication in c.1220 of Zhu Xi's Yili jingzhuan tongjie

(Complete Explanation of the Classic of Etiquette and Its Commentaries), which contains twelve musical settings for Confucian district ceremonies recorded in the Yili. There was no further need for scholars of the later generations to re-discover ancient tunes; they merely had to suggest ways to "improve" these scores. In fact, Zhu Xi remained a source of inspiration for music theorists until the mid-nineteenth century.

The practical attitude of Song scholars continued in a more introvert style in the Ming dynasty (1368-1644), after the ninety-year foreign Yuan dynasty. Wang Yangming's (1472-1528) humanistic approach of re-creating ancient music from existing folk tradition was accepted and developed by a number of scholars in the sixteenth century, resulting in the formation of idiosyncratic musical ideas. This was also the era of Zhu Zaiyu (1536-1611), who devoted much of his effort to working out the theory of equal temperament mathematically, but failed to demonstrate its merits to contemporary music officials and theorists of later generations. His thorough and yet somewhat biased commentaries on other Ming theorists help put the influence of the ritual classics on music in the proper social and philosophical context.

In the final period of imperial rule of the Qing court (1644-1911), when the new Manchu Emperor found it necessary to establish himself as a Chinese ruler, the reaction to the distractions imposed by Song neo-Confucians was a return to Han orthodox interpretation of the classics. In music, this would mean the discrediting of the theories of most Song and Ming scholars in favour of those seeming closer to the remoter ideal past. The musical ideas of the ritual classics and their Han commentaries were often a useful starting-point for Qing musicians to put forward their own theories on ceremonial music. At an official level, the direct involvement of the Kangxi (r.1622-1722) and Qianlong (r.1736-95) Emperors in the publication of the mammoth music treatise Lulu zhengyi (Collected Basic Principles of Music) in a

way discouraged scholars not involved with the project from putting forward their views independently. In any case, the cruel reality of internal turmoil and foreign imperial aggression during the last century of Manchurian rule had made it difficult for any serious writers to consider music as a powerful tool in the ruling of the country.

Throughout Chinese imperial history scholars disputed and refined their interpretation of the ritual classics. The proposal of new theories of interpretation, in the search for a supposed Golden Age of ritual music, was a matter of scholarly pride and ambition, which may often have had little or no practical result. Nevertheless some theories, particularly in the Northern Song dynasty, had some positive effect on practical performance. While theoretically, ritual music had a moral and religious function, pleasing Heaven by reflecting the order of the Confucian state, in practice scholars may have often shown more interest in their own arguments and interpretations than in the ultimate Confucian aim.

Notes

- ¹ There was an absolute standard of pitch in ritual music. The most important of the twelve pitches is huangzhong, from which the other eleven in the basic octave are derived. The determination of a correct standard for pitches had long been the duty of an Emperor, particularly the first of a dynasty, owing to the established practice of working out measuring standards of length, weight and volume from this basic element of music. The ability to standardize pitches and measurements had, since the first Emperor of Qin (r.221-210 B.C.), been a symbol of absolute authority in China.
- ² The degrees are the relative positions of notes recurring in a piece of music. Of the five degrees commonly used in China, the first degree gong is equivalent to "do", the second degree shang "re", the third degree jue "me", the fourth degree zhi "so" and the fifth degree yu "la". While all degrees carry moral connotations, the most significant is gong, which symbolizes the Emperor. In addition to the five degrees, the biangong and bianzhi (equivalent to "te" and "fe" respectively) are also used when necessary.
- ³ The mode is the basic arrangement of degrees within a piece of music. A particular mode is identified by naming the degree which begins and ends the music. For example, a piece is in gong mode if it begins and ends with the gong degree. It is also possible to take the final degree as the name of the mode if the initial and final of a piece are different. The most significant mode in Chinese classical music is the gong mode with the gong degree fixed to the fundamental pitch huangzhong, owing to the moral connotation with the Emperor and the beginning of yang.
- ⁴ For the connection with the Lushi chunqiu and Daoist ideas, see Sun 1981:159-162. Daoist element is particularly strong in Liji (51.2b), a section entitled The Spare Time of Confucius (Kongzi xianju), where the sage is said to be preaching "soundless music" to his pupil Zi Xia, in a manner similar to Laozi, the founder of Daoism.
- ⁵ Unlike the Pythagorean use of the string in theories of proportion and pitch, the traditional Chinese system of measurement depended on the hollow length of bamboo, its length subject to imperial variation. The bamboo gave a standard of pitch, a standard of volume, through the number of millet grains the bamboo would hold and a standard of weight through the weight of the millet grains.

Chapter 1 The Han Dynasty (206 B.C. - 220 A.D.): Confirmation of the Moral Value of Music

The fall of the Qin dynasty in 206 B.C. demonstrated the failure of harsh Legalist policies. This also made it necessary for the early Emperors of the ensuing Han dynasty (206 B.C. - 220 A.D.) to look for alternative ways to govern. The most obvious choice was Daoism, owing to its emphasis on the passive role of the ruler, therefore providing a respite from the interventionist doctrines of the preceding administration. In fact, a number of influential figures in the Han dynasty were strong advocates of Daoist doctrines, including Emperor Huidi (r.195-187 B.C.), Wendi's (180-157 B.C.) wife Empress Dou (?-135 B.C.), Emperor Wudi's (141-87 B.C.) uncle Liu An (c.179-122 B.C.), and scholars such as Lu Jia (c.228-c.140 B.C.), the historian Sima Qian's father Sima Tan (? -110 B.C.) and Yang Xiong (53 B.C.-18 A.D.) (Gernet 1982:160). The continued Daoist influence indicates that the harsh policies of Qin rulers did not completely inhibit the existence of different schools of thought at the end of the Warring States period in the third century B.C.

The early Han was also an age that constantly looked back to the remote past. In this connection, Confucianism had an important role to play, because of the well established tradition of transmitting its doctrines in writings, and its positive and yet relatively mild approach in governing policies. This revival was closely connected with the ideas of yinyang and five elements, the classification of as many things as possible into masculine and feminine genders, including the basic material found in the universe. Confucianism gained formal recognition during the reign of Emperor Wudi in 136 B.C., when the canon of five classics, including the Shijing (Book of Songs), Shujing (Book of Documents), Yijing (Book of Changes), Lijing (Book of Rituals) and Chunqiu (Spring and Autumn Annals) was established. The fact that the Yuejing (Classic of Music) was not part of the canon indicates an acceptance of the hard reality that if it had ever existed at all, it had by then disappeared. Nor could it possibly mean that music had a less important position; its role in the state is recorded

in each of the five classics, and particularly emphasized in the Yili and Liji, part of the existing Lijing.

In order to exploit the potential of the classics, it was necessary to have the skills to verify and interpret the texts, which were supposed to carry messages of wisdom from antiquity, and often so concise that they could be subject to different ways of treatment. An expert was appointed for each of the five classics for the dissemination of their content, but it is inevitable that these texts could only be interpreted according to intellectual skills available in the Han, which presumably also included the use of the Erya (Literary Exposition), a reference book for ancient terms from the third century B.C. Of course, a more comprehensive research manual Shuowen jiezi (Analytical Dictionary of Characters) was compiled by Xu Shen (c.58-c.147 A.D.) in 121 A.D, when the tradition of studying Confucian classics had become more established. To some extent, it was difficult completely to avoid anachronism in scholarship, relying, as it did, on more recent interpretations and scholarly commentary.

The strong relationship between music and the development of human character is emphasized in the classics, and is further publicized in the writings of Confucius, Mencius and Xunzi. In the Han dynasty, music had a different role in the mind of a Daoist scholar like Liu An (179-122 B.C.), a rationalist like Wang Chong (27-c.100 A.D.) and a staunch Confucianist such as Dong Zhongshu (179-104 B.C.). Attitudes varied from a complete rejection of the moral value of music to an integration of music with different facets in connection with heaven, earth and human beings. A number of philosophers, such as Lu Jia and Han Ying (179-87 B.C.), chose to maintain a happy balance between the negative Daoist views on music and the important political value the Confucianists gave to music.

In assessing the influence of the three ritual classics in the formulation of ideas about ancient music in the Han dynasty, it is necessary to take into account the

controversies associated with the New Text School and the Old Text School of classical learning. This is connected with the early transmission of classical texts after the Burning of Books in the Qin dynasty: some classics were revived from texts dictated by scholars who had survived the political transition in the script of the time, while others were believed to have been found in the old house of Confucius and were written in old seal script. The Yili and Liji were associated with the New Text School, which had a leading position during the first two centuries of the Han dynasty, while the text of the Zhouli was only available in old script, and received little attention until the intervening Xin dynasty (9-25 A.D.). It is not until the end of the Later Han dynasty (25-220 A.D.) that debates concerning the interpretation of classical texts began to subside, partly owing to the effort of Zheng Xuan (127-200 A.D.), who wrote, amongst similar scholarly works, commentaries for the three ritual classics, comparing texts available in the two kinds of scripts.

From a musical point of view, the nature of the ritual texts also had a decisive effect on how they would influence Han scholars. The broadly correlative nature of the Yueling (Monthly Commandments) and the edifying orientation of the Yueji (Book of Music) in the Liji made the classic an obvious source of inspiration, owing to current desire to establish a position for music in the context of Confucian administration. The passing references to technical details of music in the Liji would have satisfied the need of scholars whose primary aim was to reaffirm the moral significance of music. The purely descriptive nature of the Yili or the Zhouli's account of the music administrative hierarchy and sacrificial music would not have served such a purpose.

The scholar-official Lu Jia (c.228-c.140 B.C.) must be one of the first in the Han dynasty to have stressed the prophylactic qualities of music, while emphasizing the virtue of simplicity, making a clever balance between Confucianism and Daoism, as in part of the Yueji:

The musicians can exhaust their skills to perform on the bamboo and string instruments, and to accommodate the dances accompanied by bells and drums. This is done in order to check extravagance, regulate traditions and create gentleness. If, on the other hand, the later dynasties are decadent and the music of the Zheng and Wei States is encouraged, ordinary people will forget their basic values and will attempt every means to acquire physical satisfaction, such as beautiful inscriptions, colours and excessive music.

(Xinyu 1.1b)

Lu Jia's Xinyu (New Analects) was written for Emperor Gaozu (r.206-195 B.C.) to assess the failures of the immediate past (Gottschang 1983:212). It is therefore natural to expect the work to include some reference to the moral aspect of music. The main purpose was to classify good musical performances as those involving bamboo and string instruments, bells and drums, an idea derived from the eight timbral sources of ancient music. The musical skills were not to bring about physical enjoyment, but to promote moral standards. Decadent music, on the other hand, originated from the states of Zheng and Wei, and would be detrimental to social order. Lu Jia's perception of the moral qualities of music was similar to that provided in the Yueji, and had contributed little to the revival of the ancient musical tradition. While the Yueji stresses the importance of rites, music, laws and administration in governing a state, Lu Jia considered the first two as preferred measures:

When the ancient Emperor Shun ruled his Empire, he played his five-string qin and sang the poem Nanfeng, as if he did not have any desire to rule the country and had no concern for his people, yet it was in good order. The early Zhou ruler regulated rites and music, and made sacrifices to heaven and earth, mountains and rivers, while not establishing armies and not relying on harsh laws, yet dukes from the surrounding states paid tribute to the Emperor. Therefore, complete detachment leads to achievement.

(Xinyu 1.3b)

While it can be argued that Lu Jia borrowed his idea of non-interference from Laozi, he did not advocate complete withdrawal, as put forward by the latter's Daodejing (Classic of the Way and of Virtue). The account of the legendary Emperor Shun ruling the country by singing Nanfeng, a musical setting taken from the classic Shijing (Book of Poetry), is also provided in the Yueji (Liji 38.1a). Lu Jia

implied that in the early Zhou period, non-interfering policies did not work satisfactorily, and the ruler had to impose law and order actively by promoting rites and music. In his mind, these Confucian tools were necessary after human character had deteriorated, and would certainly be applicable to the Han dynasty. Since his main interest was to assess the role of music to the state, and not to investigate how music could have its desired effect on the human mind, there was little attempt in studying the technicalities of music.

Yinyang and Correlative Theories of the New Text School

Lu Jia's younger contemporary Jia Yi (201-169 B.C.), an imperial scholar at the court of Wendi (r.179-164 B.C.) and well known for his literary achievement, had a more definite view about the value of music in his Xinshu (New Discourses). His way of putting forward this idea was to define the relationship of the basic elements of music, sound (sheng) and pitches (yin), within the strict confinement of the number six, much in the tradition of Han numerological speculation, favoured by scholars of the New Text School. As in the Yueji, there is a difference in the degree of sophistication between sound, classified by Jia Yi as the five degrees (gong, shang, jue, zhi, yu), and pitches, divided into six masculine (huangzhong, taicou, guxian, ruibin, yize, wuyi) and six feminine (dalü, jiazhong, zhonglü, linzhong, nanlü, yingzhong) (Xinshu 8.3a). In the same passage, Jia Yi argued that the five degrees would not be complete without the higher octave gong degree, making it possible for him to arrive at the number six without challenging any existing pitch theories. However illogical it might be, he must have hoped that by trying to find a common number for two different musical qualities, it might lead to a closer relationship between them.

In order to prove that music had a more general influence, Jia Yi suggested sound and pitches were part of the complicated structure including the six masculine

and six feminine calendar months, six arts of learning imbedded in the six classics (Shujing, Shijing, Yijing, Chunqiu, Lijing, Yuejing), six standards of behaviour (love, righteousness, propriety, wisdom, trustworthiness, joyfulness), six principles (the way to perfection, virtue, character, spirit, mandate, destiny) (Xinshu 8.2b-3a). In Jia Yi's mind, an idea no doubt shared by other philosophers of the time, the elements of music fitted into a general pattern of human and non-human factors, unified by speculations concerning numbers which might at times be unconvincing. Jia Yi did not make a moral judgement on music, but he presumably believed there was little chance for it to degenerate, if other factors of the state remained stable. His investigation into the characteristics of degrees and pitches foreshadowed the philosophical trend of the Former Han dynasty, and provided a basis for the practically oriented music scholars of the Song dynasty in the establishment of an ideal musical system.

In fact, Jia Yi's complex permutations involving degrees and pitches reflected the contemporary prominence of apocryphal books, designed for the interpretation of the classics, and trusted by scholars of the beginning of the Former Han (Tjan 1949:120). The three known apocryphal treatises on music are Yuewei yetuzheng (Apocryphal Treatise on Music: A Graphic Representation of Its Harmonies), Yuewei dongshengyi (Apocryphal Treatise on Music: Meaning of Movements and Sounds) and Yuewei qiyaojia [Apocryphal Treatise on Music: An Account of Important Personalities]. They were reconstructed from various sources by Ma Guohan (1794-1857) after successive proscriptions since the fifth century, and explored the meaning of various aspects of music following the same line as Jia Yi.

While the Yueji is mainly concerned with the exploitation of the moral qualities of music, the apocryphal treatises envisage accommodating the basic elements of music in the context of yinyang, five elements and natural phenomena. This is a further step towards reaffirming the significance of music. The five degrees

are related to heaven, while the six masculine pitches are designated to earth (Yuewei dongshengyi 5a). Such a juxtaposition is contrary to the tradition of regarding earth as a symbol of femininity, yet the magnitude of heaven and earth reflects the importance of these basic musical elements. In addition, the idea of five degrees in relation to the hierarchy of the state as expressed in the Yueji is expanded to include the five internal organs of the body:

Take the degree gong as the Emperor. He is generous to his people and his sound is loud yet harmonious. The sound, clear and soft, will activate the spleen. Take the degree shang as the ministers. They listen to the commands of the Emperor. The sound, spread out, gentle and harmonious, will activate the lungs. Take the degree jue as the people. They will refrain from extravagance. The sound, having a restraining power, clear and calm, will activate the liver. Take the degree zhi as affairs. The gentleman needs to achieve his aims without delay. The sound, fast but calm, will activate the heart. Take the degree yu as matter. It does not come together. The sound, spread out, feeble, yet harmonious, will activate the kidneys.

(Yuewei dongshengyi 1a)

Each degree corresponds to an internal organ, which is invisible and yet vital for a certain aspect of metabolism. The correct application of the five degrees guarantees the health of all individuals, the basic condition to fulfill before a judgement on the order of the state could be made. Furthermore, the five internal organs (liver, lungs, heart, kidneys and spleen) are discussed in relation to the five elements (wood, metal, fire, water and earth), five human virtues (love, righteousness, propriety, wisdom and trustworthiness), five directions (east, west, south, north and centre), five colours (green, white, red, black and yellow) and five facial parts (eyes, nose, ears, nostrils and mouth), and all fitted into the context of opposite genders of yinyang (Yuewei dongshengyi 3a-3b). The five degrees are also closely linked to the five exotic birds (Yuewei yetuzheng 6b). This is evidence that the five degrees, like the other qualities unified by the number five, will remain unchanged and be part of the complicated structure eternally.

As in the Yueling (Monthly Commandments) in the Liji, the six masculine and six feminine pitches are associated with the twelve months of the year:

The six masculine pitches are: huangzhong the eleventh month, taicou the first month, guxian the third month, ruibin the fifth month, yize the seventh month and wuyi the ninth month. The six feminine pitches are: dalv the twelfth month, jiazhong the second month, zhonglu the fourth month, linzhong the sixth month, nanlu the eighth month and yingzhong the tenth month.

(Yuewei yetuzheng 1b)

Apart from the number twelve linking pitches and months, these two qualities share the common characteristic of being cyclical. The eleventh month, or the month of winter solstice, represents the arrival of the masculine force, and the symbol for a gradual increase in the influence of the sun, while its corresponding pitch huangzhong is the first masculine pitch by which the other eleven are generated. The gradual transition of each month created relatively little problem for early Han philosophers, but the mathematical and acoustical shortcomings of generating pitches in fifths by the Method of Triple Division, involving the alternate subtraction and addition of a third of the length of a bamboo pitch-pipe, was realized to be inaccurate.

There was to be an improved mathematical approach to pitches in the octave when Jing Fang (77-37 B.C.) abandoned the strict limit of the number twelve and carried on the same calculating process to reach the sixtieth pitch, based on an approximate expansion of the eight trigrams to sixty-four hexagrams in the Yijing (Book of Changes). Jing Fang's mathematical theory was, incidentally, further developed by Qian Lezhi (424-53), who in a way further emphasized the fallacy of the Method of Triple Division by continuing his calculation to reach the number 360. Ironically, the true cyclical nature of the twelve pitches was only realized in the late sixteenth century when Zhu Zaiyu (1536-1611) discovered a mathematical solution to equal temperament by restricting the number to twelve.

While the Yueji (Liji 39.5b-7b) gives an account of the virtuous effects of the eight timbral sources of instrumental sound, focusing on bells, sonorous stones, silk and bamboo instruments and drums, the Yuewei yetuzheng goes further, somewhat illogically, to draw a relation between pitches and instruments:

1

When the sound of the bells is harmonious, the way of the Emperor is achieved, so are the pitches huangzhong and ruibin...When the sound of drum is harmonious, the way of the ministers is achieved, so is the pitch taicou. When the sound of the guan is harmonious, the pitches and calendar are correct, so is the pitch yize. When the sound of the sonorous stones is harmonious, the way of the people is achieved, so is the pitch linzhong. When the sound of the yu is harmonious, the laws are established, so is the pitch wuyi. When the sound of the qin is harmonious, the four seas are in accordance with the yearly breath, and the hundred rivers, spirits and sacrificial rites are in order, so is the pitch guxian.

(Yuewei yetuzheng 3a)

It is obvious that the instruments listed belong to metal, skin, stone, bamboo and silk of the eight instrumental sources of sound, leaving those classified as gourd, earth and wood unaccounted for, as in a similar passage in the Yueji. In the Yuewei yetuzheng, eight skilled music officers are appointed to perform the eight different categories of instruments. All the pitches mentioned are masculine, except linzhong, which is associated with sonorous stones. The association of certain pitches with different instruments does not mean they cannot emit other pitches; a possible interpretation is that these designated pitches are the names of the ideal modes for these instruments. The moral implications of pitches outlined here are similar but covering a wider area than those provided for the five degrees in the Yueji. Again, the discussion of instrumental timbres and pitches is in the context of the opposite genders of yinyang: the pitch ruibin is associated with music of the feminine gender, which provides completeness in the markings of heaven, while huangzhong represents music of the masculine gender which completes the configurations of the earth (Yuewei yetuzheng 3b). These apocryphal texts confirm Jia Yi was not alone in the search for a position for basic elements of music of general relevance to the state.

Such kind of permutative theory, designed to provide a solution to any questions concerned with the existence of tangible and intangible matters in the state, was to become a doctrine of the followers of the New Text School, who believed in

the oral transmission of classical texts, and their transcriptions in contemporary script. Dong Zhongshu (c.179-104 B.C.) was one of the most notorious Confucian scholars of the Former Han, pre-occupied with the mystic theories of yinyang and five elements. In spite of the stigma associated with his own brand of Confucianism, he has, over the past two millennia, been idolized, until recently, although he was condemned for advocating the propagation only of Confucian learning during the reign of Emperor Wudi (140-87 B.C.). His most influential theory of government, expressed in Chunqiu fanlu (Deep Significance of the Spring and Autumn Annals), is the definition of imperial rule in the context of heaven, earth and man, achieved partly by raising the status of Confucius to that of a sage, while at the same time excluding other prominent schools of thinking (Loewe 1990:108). In spite of the complexity of the terminology involved, Dong Zhongshu's idea of human nature aims to reconcile the contrasting views of Mencius and Xunzi in the area, with a belief that love (ren), righteousness (yi) and wisdom (zhi) can be cultivated (Hucker 1975:196). Such an idea of cultivation, of course, relates closely to the advocating of Confucian learning.

The role of music in governing the state is considered in conjunction with the institution of rites in the Yueji, but Dong Zhongshu took these two essential Confucian administrative tools to a different level, regarding them as part of the fundamentals in maintaining a balance of nature: "Heaven, earth and man are the origins of myriad¹ things. Heaven produces life, earth nourishes it, while man completes it. Heaven gives piety to life, earth provides clothes and food, while man has to complete these with rites and music." (Chunqiu fanlu 19.781) Without venturing into the technical details concerning pitches, degrees and instruments, Dong Zhongshu argued that the creation of music, like rites, should be the natural responsibility of human beings after the basic necessities of life have been provided by heaven and earth. The existence of music therefore represents an essential step

towards the establishment of a more sophisticated society held together by high moral standards.

While the Yueji (Liji 37.8b) suggests that music was created by ancient sage-emperors, Dong Zhongshu accommodated it in a heavenly and human context: "Policies are established in response to heaven, while music is composed to fulfill the response of man." (Chunqiu fanlu 1.769) He stressed the supreme mandate of heaven in fixing the administrative tools of the state, and considered the performance of music as a manifestation of the acceptance of such a rule by the people, itself further strengthening the position of heaven. It does not, however, mean that Dong Zhongshu had deviated from the Yueji by advocating that ordinary people should have the freedom to create their own music. The role of music composition could only be taken up by the Emperor, who had the task of representing the people in communicating with heaven. In the same passage, Dong went on to list the ancient pieces Shao, Xia, Huo and Wu by legendary Emperors Yao, Yu, Tang and Wenwang of Zhou to illustrate how they responded to the wishes of their people in composing music on their behalf. He then reiterated the moral qualities of music, and its ability to enhance administration of the state and the behaviour of individuals, much in the same approach as the Yueji (Liji 39.19b). Having realized the importance of music, Dong Zhongshu did not provide any guidelines for assessing the quality of music. Somehow he implied that it was not strictly essential to return to the musical tradition of the ideal past, so long as the Emperor could carry out his duty as a mediator between heaven and his people. Music created by an Emperor would always meet the strict moral standard.

Eclecticism Amongst Confucian Scholars

Some contemporaries of Dong Zhongshu took a more eclectic view towards evaluating the relationship between music and the state. Amongst them was Han

Ying (179-87 B.C.), a scholar-official born in the same year as Dong, serving at the court of Emperor Wendi and famous for his interpretation of the Shijing (Book of Poetry). His Hanshi waizhuan (Han Ying's Illustrations of Didactic Application of the Book of Poetry) includes discussion of Confucian musical ideas with interjections of Daoist and Rationalist thoughts, a sign of the continued influence of some major philosophical schools flourishing a few centuries earlier. In a way, Han Ying's work resembles the Liji, because of the varied content (Hightower 1952:3). A short quotation from the Shijing is usually referred to after a long didactic passage, showing traces of wit in creating extreme contrast in organization of sentence lengths.

As in the Yueji, Han Ying advocated the value of music in the cultivation of the character of an individual, but he went further to exploit the merit of each degree of a mode:

The sage-emperor Tang composed the piece Huo. When the people listened to the gong degree, they became gentle, virtuous and considerate. When they listened to the shang degree, they became honest, respectful and trustworthy. When they listened to the jue degree, they became kind to their friends and began to look for a high moral standard. When they listened to the zhi degree, they became selfless in the giving of love and other personal sacrifices. When they listened to the yu degree, they became respectful to their elders and observed propriety.

(Hanshi waizhuan 8.9b)

While the Yueji stresses the hierarchy of the five degrees without referring to the nature of music (Liji 37.5a), Han Ying took a more rational approach by first naming the ancient piece Huo (Dahuo) composed by Emperor Tang of the Shang period, therefore distancing himself from any decadent form of music, before he outlined the advantageous effect of each degree. Each of the five degrees can have positive influence on different aspects of human character, and their correct application is essential in maintaining a good relationship between individuals of different generations.

Han Ying did not accept the moral influence of music without further investigation. In an anecdotal passage concerning Confucius studying the qin with

the music master Xiangzi, Han Ying emphasized the importance of learning the melody, and an in-depth analysis of its structure, before extracting the meaning from the music and associating it with the virtuous character of Emperor Wen (fl. c.1121 B.C.) of the early Zhou period (Hanshi waizhuan 5.3b). This is a further development of the more rudimentary distinction of sound, pitches and music provided in the Yueji (Liji 37.1a). Basically, Han Ying realized that there were two aspects of music: they were the technical skills which related to its organization, and the messages it could convey. Although the ultimate aim was for music to carry its moral meaning, such a task could not be completed without an appreciation of the technical side of music. Han Ying's emphasis on the active participation of the listener was to be discussed in greater depth particularly by philosophers of the third century.

While admitting the value of music to an individual, Han Ying also put forward some fundamental Daoist music ideas: "The sound that can be heard does not go beyond a hundred miles, but inaudible sound can reach the far ends." (Hanshi waizhuan 1.5b) Such an obvious reference to Zhuangzi (369-286 B.C.), the great propagator of Daoism at the end of the Warring States period, is used in a less obvious manner to convey a more Confucian ideal: that end results may not be related to superficial perception. There is a striking similarity between this idea and the reference to the singing of the piece Nanfeng by the seemingly indulgent ancient Emperor Shun in the Yueji, stressing the importance of the effect rather than direct achievement. The inclusion of Daoist ideas in this context somehow does not weaken Han Ying's basically Confucian beliefs.

It is worth noting that while Confucianism gathered momentum in the second century B.C., there were some attempts to publicize Daoist doctrines during the reign of Wudi (140-87 B.C.), notably by his uncle Liu An (c.179-122 B.C.) (Le Blanc 1985:6). His surviving text Huainanzi (The Book of Master Huainan) discredits the

Confucian doctrines of love (ren), righteousness (yi), propriety and music as remedies for an imperfect world, and is in direct contrast to the spirit of the Yueji. Liu An's negative approach to the moral value of music had relatively little influence in the Former Han dynasty (206 B.C.-23 A.D.), but it provided the necessary musical background for later philosophers such as Wang Chong (27-c.100 A.D.) and Ji Kang (223-62 A.D.).

Ironically, Sima Qian (145-86 B.C.), the son of the famous Daoist scholar Sima Tan (? -110 B.C.), turned out to be one of the most respected Confucian scholars, owing to the influence of his Shiji (Historical Records), setting a trend for later scholars to adopt his division of history into biographies, annals, tables and treatises. Although it has been pointed out that Sima Qian relied too heavily on legends with moralizing ideas in his biographical section, his treatises were based on reliable sources of the period, including his account of music (De Crespigny 1973:64).

Indeed, Sima Qian incorporated the entire text of the Yueji from the Liji, with minor changes, in the music section of the Shiji, further elevating the position of this part of the ritual text. Sima Qian's version of the Yueji is more organized, with material logically grouped under eleven headings, including Origin of Music, Discussion on Music, Application of Music, Language of Music, Propriety of Music, Feeling of Music, Moral Value of Music, Representation of Music, and Musical Conversations of Bin Mujia, Shiyi and Wei Wenhou. The availability of this version has prompted scholars to use it in verifying the original ritual text (Yu 1963:56-57).

In spite of the prominence of the Yueji in the music section of Sima Qian's Shiji, he managed to include some historical account of the subject, by referring to the good music composed by Emperor Cheng (c. 1115 B.C.) of the Zhou period, and the rapid deterioration of the ancient musical tradition during the time of Confucius, and again in the Qin dynasty (221-206 B.C.) (Shiji 24.1175-77). The nostalgic

attitude of equating antiquity with excellence is similar to the central idea of the Yueji. As a historian, Sima Qian was able to extend the ritual classic's condemnation of the corruption of music to the previous Qin dynasty. He implied that the musical tradition of the Han should be improved before it was ready to be used as a tool to educate the people.

Sima Qian briefly mentioned the Yuefu, an office of music established in 112 B.C. during the reign of Wudi, while tactfully avoiding any comment on its extravagance, as the later Han critics were to do, but acknowledging its central role of allowing the Emperor to carry on the musical tradition of the ancestors to influence his people (Shiji 24.1178).² He made use of the fact that the main repertoire of the Yuefu was folk music collected from different regions to stress the need for the Emperor to use music as a channel to monitor the sentiments of the people. Technically speaking, music was still considered as a tool of administration, because the Emperor could then take an initiative to formulate appropriate policies in response to the social and political climate.

This unique role of music was further discussed in conjunction with the cosmic idea of union with nature: "Music originates from within the human heart, which serves as a link between heaven and man. Like pictures which are the expression of shapes, music is the response to sound. Therefore, heaven will grant fortune to the good man, and disasters to the bad. This is a natural phenomenon." (Shiji 24.1235) Sima Qian's idea of the origin of music was a step further than the Yueji's definition of it being a response to external events; he considered it as a channel of communication between man and heaven, although he stopped short of mentioning its relation to earth, as Dong Zhongshu had done. Sima Qian suggested man could control his destiny by using music of the correct moral standard to influence heaven.

Sima Qian followed the example of the Yueji in praising the virtuous ancient Emperor Shun for playing the qin while singing the piece Nanfeng from the Shijing to demonstrate that the state he administered was in order, while condemning the last Shang Emperor Zhòu for indulging himself with decadent music, without any attempt to care for his people (Shiji 24.1235). This is just a reiteration of the Yueji's idea that music has a close relationship with affairs of the state. In any case, the incorporation of the entire Yueji text in the Shiji demonstrates that Sima Qian had accepted it as an adequate historical account of the subject, and was prepared to treat it as a foundation for future generations of musicians to follow, no matter how little technical information it could provide on the music.

Liu Xiàng and Followers of the Old Text School

Sima Qian's affiliation with the thinking of the New Text School not only affected the way he interpreted the classics, it also led him to be identified as a follower of the expansionist policies of Emperor Wudi. Liu Xiàng (77-8 B.C.), a distant descendant of the first Han Emperor, was, in contrast, a follower of the less aggressive ideologies of the Old Text School, owing to the deliberate exclusion of mystic elements of the Former Han from his writings. It is therefore natural to expect that by the time of Liu Xiàng, there was to be a different approach to music, the most noticeable aspect being the fate of the Yuefu, the very large musical establishment set up during the reign of Emperor Wudi, and employing 829 people at its peak. The change in official policies meant there was less desire for the continued support for a department which had been seen to be extravagant. Its abolition in 7 B.C., a year after the death of Emperor Chengdi, marked an increased political and scholarly influence of the Old Text School, of which Liu Xiàng was an advocate (Loewe 1974:203).

The Yueji from the ritual classic Liji remained an important source for Liu Xiàng to formulate his ideas on music. In his Shuoyuan (Garden of Discourses), written in a somewhat informal style akin to Han Ying's Hanshi waizhuan, Liu reiterated the origin of music based on the ideas of the varying degrees of sophistication of sound, pitches and music, and the role of dance paraphernalia, by quoting the beginning of the Yueji (Shuoyuan 19.7a). His interpretation of the ritual text was more direct than that, for example, of the New Text scholar Dong Zhongshu, owing to Liu's restriction in discussing the influence of music to man, while ignoring the possibility of exploring the context of heaven and earth. He also followed the Yueji's classification of music according to its moral value, and gave a stern warning to the possible political consequence of the proliferation of degenerate music of the ancient states of Zheng and Wei, should the wrong kind of music be chosen to educate the people (Shuoyuan 19.7a-7b). There is no question of regarding music as a means of communicating with nature.

Liu Xiàng offered more hints on technical matters concerning the performance of music than the Yueji. He followed the Lushi chunqiu (Master Lu's Spring and Autumn Annals) in defining the twelve fundamental pitches in the octave, and their relationship with the twelve calendar months, and heavenly and earthly forces, before emphasizing the hierarchy of the five degrees, the correct application of the eight timbral sources of instrumental sound and dance paraphernalia for the performance of the ancient pieces composed by the legendary Emperors (Shuoyuan 19.5b-8a). These are important elements leading to the performance of music with positive influence on human character, and therefore achieving stability by maintaining the hierarchy of the state, the central idea of the Yueji.

Indeed, the concept of hierarchy is reiterated in Liu Xiàng's similar but shorter work Xinxu [New Introduction]. He made use of the story, allegedly connected with Confucius and Duke Pingong of the state of Jin, the second being the potential

conqueror of the state of Zi, who sent his minister Fan Zhao to spy on his enemies, but finally decided to withdraw his aggressive plan, owing to his failure to persuade the Duke to perform music exclusively reserved for the Zhou ruler (Xinyu 1.3b). Liu Xiàng highlighted the importance of performing music according to the status of the host. In this case, the number of performers allowed for a duke was smaller than that designed for the Emperor. The fact that the state of Zi only allowed performances for a duke demonstrated that a good musical tradition had been kept, guaranteeing the perfect order of the state, and therefore military strength. The story is, of course, based on the Zhou feudal system with different states existing under the leadership of a ruler, and would have been out of place in the context of the centralized government of the Han dynasty, yet it complements the idea of music and the state in the Liji by emphasizing the importance of observing how music should be performed.

Liu Xiàng's frequent quotations from the Yueji, and his own straightforward interpretation of the original passages, are relatively free from the intricacies of the ideas of yinyang and five elements of the preceding century, foreshadowing the trend to be followed by adherents of the Old Text School. This school of classical learning was founded by Liu Xiàng's son Liu Xin (? - 23 A.D.), who claimed to have discovered the ancient texts written in seal script, including the Zhouli (The Rites of Zhou), Zuozhuan (Zuo's Enlargement of the Spring and Autumn Annals), Mao's version of the Shijing (Book of Poetry) and Shangshu (Book of Documents). With the Yijing (Book of Changes), these texts essentially cover the areas of the Five Classics established in the previous century. Followers of this school of learning include Yang Xiong (53 B.C.-18 A.D.) and Wang Chong (27-c.100 A.D.), who were noted for their rationalistic approach in the treatment of Confucian ideas, and paving the way for neo-Daoism of the Wei (220-65 A.D.) and Jin (265-419 A.D.) dynasties (Fung 1953:137).

Yang Xiong, an official at the court of Chengdi (r.32-8 B.C.) before being recruited to serve the usurper Wang Mang (r.9-23 A.D.), is famous for his strong desire to promote the Five Classics. His Confucian ideals are epitomized in his Fayan (Model Sayings), written in the style of the Lunyu (Analects) of Confucius, and his Taixuan (Great Mystery), in the spirit of the Yijing. His association with the Old Text School affected the way he assessed how music should be administered: he was totally against the grand structure of the music office Yuefu, its inclination towards entertainment music and the general pomposity of its performance style, but was in favour of advocating the educational value of music of great simplicity, an attitude which had contributed to the abolition of the office in 7 B.C. (Loewe 1974:208).

As in the Yueji, Yang Xiong distinguished music with a moral value and music purely for enjoyment. He was, however, more concerned with the fundamental question why music could be so different, given that it was always made up of twelve pitches and five degrees. His solution, resembling the later rationalist Wang Chong (27-c.100 A.D.), was simple: "Virtuous music resembles the elements of the mean and justice, while music of the state of Zheng is excessive." (Fayan 2.2a) There is no attempt to assess the quality of music based on its association with ancient sages, nor on its relationship to the administration of the state. A more objective standard concerning the inherent qualities of music was adopted.

In the same passage, he added: "The basis of good music is that it is generated by the fundamental pitch huangzhong and adjusted by the elements of the mean and justice. Once established, it cannot be influenced by the music of the states of Zheng and Wei." He was concerned with the determination of correct pitches, and therefore the five degrees, before the application of the intellectual process in composition. He believed that once this was fulfilled, there would be no difficulty in producing music of the right moral quality. This is in contrast to the more conservative idea of first

reviving the ancient musical tradition before finding the right pitches from the music. Indeed, the question of pitches and degrees remained an important issue in the Song dynasty, and had led to active discussions in the Ming and Qing periods.

The central idea of relating music to the administration of the state in the Yueji was presented in a more relaxed manner: "When the sages governed the state, they made full use of rites and music... I only see people in minor positions neglecting these tools; sages never had any such shortcomings." (Fayan 4.4a) Yang Xiong expected that rulers with adequate personal qualities would naturally accept music as a governing tool. He went on, in the same passage, to reiterate the necessity of subjecting people to the right kind of music, owing to the possible influence of music corrupting the mind. Such an application of Xunzi's concept of maintaining order by actively controlling human character is in direct contrast to his passive Daoist approach in his Taixuan (Fung 1953:146).

Wang Chong (27-c.100 A.D.), a pupil of the famous historian Ban Gu's (32-92 A.D.) father Ban Biao (3-54 A.D.), followed Yang Xiong's path as an exponent of the Old Text School. Wang's massive work Lunheng (Critical Essays), dated 76-84 A.D., consists of some 200,000 words and is divided into eighty-five sections. Although the work is eclectic in outlook, it is essentially a Confucian work aiming at the extermination of superstitious beliefs, favoured by scholars of the Former Han dynasty, through the use of naturalistic ideas of Daoism. Since Wang Chong's desire was to use Lunheng as a tool to expose the weakness of those Han literati relying heavily on fictions and fallacies in the interpretation of the classics, the work was considered controversial, and therefore did not gain wide recognition when it appeared. Its close relationship, however, with natural phenomena had a great effect on the famous music theorist and qin player Cai Yong (132-92 A.D.), one of the pioneers in the use of the designation of pitches in Yueling (Monthly Commandments) of the Liji to determine the accuracy of the tuning of the twelve

pitch-pipes, by subjecting them to activation by ethers generated by the interaction of masculine and feminine forces (Bodde 1959:19). The Song dynasty neo-Confucian scholar Cai Yuanding (1135-98) was to apply a similar method in determining the right fundamental pitches.

Wang Chong's inquiries into the transmission of the classical texts demonstrates the dominance of the scholarship of the Old Text School in the Late Han dynasty. On the ritual texts, he questioned the origin of the version of the Liji text transmitted by scholars of the New Text School, because he regarded its content as incompatible with the Six Institutions and 360 officials recorded in the Zhouli, and the procedural detail of the Yili, the last two available in texts written in seal script and endorsed by scholars of the Old Text School (Lunheng 12.5b). Like other followers of the Old Text School, Wang Chong considered the Zhou administration system to be ideal, and would have liked the Han rulers to follow the footsteps of their Zhou counterparts. Since the three ritual classics were believed to be legacies of the Zhou period, there was no question of Wang Chong doubting the validity of their content. In another passage, he was more precise in attributing the incompatible elements between the Liji and the Zhouli to the loss of the latter text and other classics written in seal script, including the Shujing and Zuo's version of Chunqiu, after the Qin dynasty (Lunheng 28.2b).

Since Wang Chong possessed a rational mind, one would expect him to be most willing to discuss topics related to abstract musical qualities, such as the origin of pitches and degrees, as provided at the beginning of the Yueji. He chose, however, to concentrate on the clarification of existing misconceptions about the physical effects of music, by giving his own appraisals for legends exaggerating the magic power of music. These included impossible stories like the one about the ancient music master Shikuang, who was able to cause rare creatures to appear when

he played the piece Baixue on the qin, and the ability of the famous se player Hu Pa to attract fish from the bottom of a pond (Lunheng 5.5a-5b).

Wang Chong accepted the basic role of music in rectifying the shortcomings of human character as emphasized in the Yueji, but unlike the ritual classic, he did not relate such an idea of the cultivation of the individual to the administration of a state:

Since the control of an individual begins with his emotion and character, this is why rites and music have such an important role to play. In order to ensure human beings behave well, rites are instituted as a preventive measure, and music is performed to regulate temperament. Rites are used to cultivate modesty and politeness, factors leading to the development of good human character. Music, on the other hand, is a means to suppress excessive degrees of hatred, desire, anger, sadness and joy, emotions which affect behaviour. The reason for instituting rites and music is precisely to control human emotion and character.

(Lunheng 3.5b)

Wang Chong's quasi-scientific investigation into the influence of music on different aspects of human character was beyond the scope of most contemporary Confucian writings. He shared the same view as the Yueji that it was essential to monitor the somewhat imperfect natural predilection of human beings. While the Yueji treats rites and music as similar tools in educating the people, Wang Chong regarded the former as a quality enhancing the positive side of human nature, and the latter as an inhibitor of the negative aspects. This is, therefore, a less dogmatic approach to the classification of human character, combining the idea of Mencius that human beings are born to be virtuous, and Xunzi's opposite view of human nature.

Wang Chong followed the Yueji in making a judgement on music based on the ways it could influence human beings, but he was also concerned with how it was received:

A player of the wind instrument lai performs an exemplary piece to the Emperor of Yue, yet he does not like it. The player then changes to a licentious piece, winning immediate admiration from the Emperor. In other words, if one performs virtuous acts to a master who does not possess a good character, one will not be appreciated. On the other hand, if one behaves

badly in front of someone who does not care for good moral standards, one will not be criticized for what one does.

(Lunheng 1.1b)

Here, the idea of perception and response is discussed, but somewhat differently from the central idea of the Yueji, where the attention lies on the effects of good and bad music, taking for granted that it has the desired moral influence on listeners. Another deviation from the Yueji is the implied criticism of a dignified figure like an Emperor, who could, like ordinary people, hold a wrong attitude to music. The fact that he is not responding to the right kind of music makes it more important for him to be protected from the influence of licentious music. Although Wang Chong's argument is logical, it does not provide room for the accommodation of the broader Confucian aims of edification.

Wang Chong's rationalistic attitude to music, however, does not mean that he was, like the followers of Daosim or Mohism, against the basic principle that music had a role in the cultivation of human character; he merely suggested that it was necessary to ensure there was enough understanding of the nature of music before it could be satisfactorily applied as an administrative tool. Wang Chong also applied such a critical approach to the assessment of the teachings of Confucius or Mencius, and led himself into severe clashes with traditional beliefs. He was not only a controversial figure of his period, but was also received with scepticism by neo-Confucianists in the Song dynasty, in spite of extensive quotations of his work in the Taiping yulan (Taiping Period Imperial Encyclopaedia) of the tenth century.

Ban Gu and the Controversy Between New Text and Old Text Schools

Ban Gu (32-92 A.D.), a younger contemporary of Wang Chong, took an opposite path in advocating the ideas of the New Text School. Ban Gu is remembered principally for his Hanshu (History of the Han Dynasty), the first standard dynastic history and the most important source concerning the Han Music

Office Yuefu. He also left a record of the debate between Confucian scholars involved in the New Text and Old Text controversies of classical learning, held at the White Tiger Hall in Loyang, the capital of the Later Han, in 79 A.D., during the reign of Zhangdi. The work, entitled Baihutong delun (The Comprehensive Discussions of Virtue in the White Tiger Hall), is an abridged version of a more complete record, now lost (van der Sprenkel 1964:12). Owing to the large variety of topics discussed, it has been quoted frequently and extensively in encyclopaedias and classical commentaries since the Sui dynasty (581-618 A.D.).

The debate, seen as an action by the followers of the New Text School to consolidate their position, under the increasing threat of the scholars of the Old Text School, did not have the desired effect (Tjan 1949:164). Although the teaching of the New Text School was to dominate officially until the end of the Former Han dynasty, the opposing ideas of the Old Text School remained influential, and were to become a vital force after the fall of the Han. This trend was to change only in the nineteenth century, when Wai Yuan (1794-1857), and later Kang Youwei (1858-1927) and Liang Qichao (1873-1929), chose to adopt the ideas of the New Text School in accommodating Western technologies in an attempt to oppose external military threats.

There is an entire section devoted to the discussion of rites and music in the Baihutong delun. Ban Gu provided little room for breaking new ground in the subject, owing to his frequent reference to traditional Confucian sources such as the Xiaoqing (Classic of Filial Piety), Lunyu (Confucian Analects), Shangshu (Book of Documents), Chunqiu gongyangzhuan (Gongyang's Commentaries to the Spring and Autumn Annals), Liji (Book of Rites), Yijing (Book of Changes) and Yueyuan yu [Words on the Origin of Music], the last a lost music treatise. Wang Chong's rationalistic approach to music, for example, would have been incompatible with the dogmatic view of music in these texts.

Ban Gu accepted the Yueji's definition of sound and pitches as basic musical qualities of different degrees of sophistication, but he took a more logical approach by expanding the idea to accommodate the six masculine and six feminine pitches, five degrees and eight sources of instrumental timbres outlined in the Shangshu (Baihutong delun 1.8b). He then made use of the opportunity to explore the fundamental elements of music in the context of correlative theory of heaven and earth, yinyang and numerology favoured by scholars of the New Text School, an obvious example being the division of twelve pitches in the basic octave into two groups of six, according to their gender. He was also influenced by the Han philological approach of extracting all possible meanings of key words in the explanation of the five degrees:

What are the five degrees? They are gong, shang, jue, zhi and yu. Gong belongs to earth, shang to metal, jue to wood, zhi to fire and yu to water. The Yueling says: "When the virtue is related to wood, the corresponding degree is jue. When the virtue is related to fire, the corresponding degree is zhi. When the virtue is related to metal, the corresponding pitch is shang. When the virtue is related to water, its corresponding pitch is yu." The reason for calling a degree jue is because of its relation to the word yue (to leap), which is activated by the masculine force. The reason for calling a degree zhi is because of its relation to the word zhi (to stop), which symbolizes the exhaustion of the masculine force. The reason for calling a degree shang is because of its relation to the word zhang (to expand), which means the expansion of the feminine force for the reception of the descending masculine force. The reason for calling a degree yu is because of its relation to the word yu (to twist), symbolizing the position of the feminine force above the masculine force. The reason for calling a degree gong is because of its relation to the words rong (to accommodate) and han (to hold), meaning to accommodate and to hold the four seasons.

(Baihutong delun 1.8b)

Ban Gu's basic idea was to relate the five degrees (gong, shang, jue, zhi and yu) to the five elements (earth, metal, wood, fire and water), and, in this respect, the chapter Yueling (Monthly Commandments) from the Liji provided a convenient source for the confirmation of these correct relationships. His new insight into the meanings of the five degrees was largely based on the somewhat illogical use of homophones, but they were cleverly applied in the context of the theories of yinyang

and the four seasons, enhancing their credibility. In any case, the exploration of the meanings of musical terms would increase the literary value of a work intended to be a record of different scholastic attitudes.

The fact that there were eight sources of instrumental timbres enabled Ban Gu to formulate more complicated theories on the topic based on the simple definition provided by the ritual classic Liji:

The Yueji says: "Xun is an instrument made of earth. Guan is made of bamboo, pi of skin, sheng of gourd, qin and se of silk, qing of stone, zhong of metal, and chu and yu of wood." They are called the eight sources of instrumental sound. The number eight corresponds to the eight trigrams defined in the Yijing, and is the number representing myriad things. These eight kinds of instruments therefore encompass the sound of all objects. The son of heaven makes use of the number eight to receive and pass on myriad things; it is necessary for him to hear the sound they emit, and to visualize their shapes. He has to ensure that flying insects and wriggling worms enjoy the sound they hear, an indication that administrative policies in the state are virtuous. This is the way to bring satisfaction to him.

(Baihutong delun 1.8b-9a)

Ban Gu took the straightforward explanation of the eight kinds of instrumental timbres in the Yueji as a starting-point, but gradually deviated from it by introducing the Yijing (Book of Changes), and relating the eight trigrams to the material of the instruments, before defining the role of the Emperor, who relied on these musical qualities to monitor the well-being of the state, and to communicate with heaven. He also worked out a detailed scheme to link the eight sources of sound to the twelve calendar months, four seasons and eight directions, long established standard duration and logistic demarcations, further emphasizing the eternal nature of music (Baihutong delun 1.9a).

Ban Gu went on to point out that the five degrees were the basic elements for composing music, while the involvement of the eight sources of instrumental timbres symbolized the successful delivery of the didactic role of music (Baihutong delun 1.9b). This is another way of expressing the idea of the Yueji that music originates from the organization of pitches. He took it for granted that the most suitable

repertoire should be chosen from one of the six ancient pieces composed by the six legendary Emperors, yet he was aware of the proliferation of licentious music originating from the states of Zheng and Wei (Baihutong delun 1.7a). Again, his view was close to the differentiation of good and bad music provided in the Yueji.

Ban Gu's conservative view of music was reiterated in the section for rites and music in his Hanshu (History of the Han Dynasty), where he gave an account of the development of music in the Former Han dynasty (206 B.C.-23 A.D.), and followed the example of Sima Qian's Shiji (Historical Records) in discussing some general characteristics of music. As in the Yueji, he stated the important role of music, together with rites, punishments and administration, in the maintenance of the order of the state (Hanshu 22.1028). There is little discrepancy in the way he distinguished the moral value of music in the Hanshu and Baihutong delun, and the idea in the Yueji. In any case, a historical work like the Hanshu would be an inappropriate medium for the expression of controversial viewpoints.

The more important musical contribution of the Hanshu, however, is the incorporation of the story in the Lushi chunqiu (Master Lu's Spring and Autumn Annals) concerning the establishment of the twelve fundamental pitches by Ling Lun, the music master of the legendary Huangdi Emperor, but altering the length of the huangzhong pitch-pipe from 3.9 inches to nine inches (Hanshu 21a.958-59).³ Ban Gu's measurement of the huangzhong was obviously more convenient for the calculation of pitches involving the number three in the Method of Triple Division, and was to become a standard for future music theorists, yet debates on the standard rule went on until the eighteenth century, when the Kangxi and Qianlong Emperors became personally involved in the preparation of the colossal imperial music treatise Lulu zhengyi (Collected Basic Principles of Music).

In spite of Ban Gu's effort in consolidating the correlative theories of yinyang, five elements and numerology established by the New Text scholar Dong Zhongshu

some two hundred years earlier, there was an increased influence of the less mystic theories of the Old Text School, represented by Ma Rong (79-166 A.D.) and his pupil Zheng Xuan (127-200 A.D.), after the death of Ban Gu. Zheng Xuan's commentaries highlight the summit of classical studies in the Han dynasty; they are also testimonies to the end of the debates concerning the two different schools of classical learning, owing to the deliberate incorporation of some New Text theories. The political and social crises caused by the uprisings of the Yellow Turbans in 184 A.D. put the very idea of Confucian rule into question. The remaining years of the Han dynasty saw a revival of the eclectic philosophical ideas of the end of the Warring States period some five centuries earlier, with an inclination towards the non-interfering attitude of Daoism. Musically, it led to a severe challenge of the traditional moral value of music, particularly by the neo-Daoist scholar and qin player Ji Kang (223-62 A.D.) of the Wei dynasty (220-65 A.D.), who wrote a long essay to prove the non-expressiveness of music.

Amongst the three ritual classics, or indeed other sources available in the Han dynasty, the Liji remained the most important work for the formulation of ideas concerning the educational value of music. The close relationship between music, an individual and the state defined in the Yueji was seldom disputed, notwithstanding the fact that there were deviations in the ways ideas were put forward by classical scholars of different schools. Dong Zhongshu summed up the views of scholars of the New Text School by giving an important position to music in the context of heaven, earth and man, while the active involvement of the historians Sima Qian and Ban Gu further strengthened the role of music in maintaining order in the state. The devotion of a section in the Shiji and Hanshu to the discussion of music in relation to administration was to become a standard trend in the compilation of dynastic histories, a practice continued until the early twentieth century.

Apart from the achievement in textual interpretation, another noticeable contribution in music in this period was the recognition of the principle of the twelve pitches in the octave, five degrees and eight kinds of instruments, forming the basis of composition until the end of Manchurian rule in the twentieth century. The Han was also an age more concerned with the justification of the existence of certain aspects of music than its practicalities; Jing Fang's venture into the division of the octave into sixty pitches partly reflected his desire to find a mathematical solution to the imperfect calculation of pitches by the Method of Triple Division, and partly demonstrated the strong influence of the correlative theory of the Yijing's eight trigrams and sixty-four hexagrams.

The gradual rise of the Old Text School towards the end of the Han dynasty meant scholars could be more open in discussing the meaning of the Zhouli, yet its association with the usurper Wang Mang created a certain stigma for the ritual classic. The scepticism was to disappear after the fall of the Han Empire, when the teaching of the Old Text School became the official intellectual power, enabling music scholars of later dynasties to make use of the technical information provided in the ritual classic. The musical potential of the Yili, on the other hand, was to be fully realized only in the Song dynasty, when the neo-Confucian master Zhu Xi (1130-1200) provided twelve songs for the District Dining Ceremony in his Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries), a work intended for the establishment of a relationship between the three ritual classics. Such a venture, without any consideration given to the origins of the classical texts, would have been unthinkable in the Han dynasty.

Notes

- ¹ The original character wan 萬 refers to the number ten thousand, but it also carries the meaning of a large quantity of something.
- ² For the development of the music office Yuefu, see Loewe 1974:193-210.
- ³ The unit "inch" here and in the rest of the thesis refers to cun 寸, meaning one tenth of the Chinese foot chi 尺. The cun is the most common unit associated with measurements of pitch-pipes, and it is divided into ten fen 分, one hundred li 釐, one thousand hao 毫 or ten thousand si 絲. Chinese measuring standards vary in different periods, and can be altered according to the need and belief of the time. The current Chinese foot is equivalent to 1.094 feet of the Imperial system.

Chapter 2 The Period of Disunity (220-589): Confucianism Marginalized

The fall of the Han dynasty in 220 A.D. was a sign of the failure of Confucian administrative policies. In the ensuing long period of social, political and economic uncertainty, known as the Period of Disunity (220-589), China was from 220-80 divided into three kingdoms, the Wei, Shu and Wu, with capitals at Luoyang, Chengdu and Nanjing respectively. The Wei kingdom, having conquered the Shu in 263, assumed a new dynastic name the Western Jin in 265, and formed a briefly united empire by defeating the Wu in 280. China was again divided into a series of short dynasties from 317-589 in the North with foreign rulers from the north-west and the steppes, and the South ruled by a member of the Sima family of the Western Jin. The way that a number of states co-existed was somewhat similar, if not more complicated, than that at the end of the Warring States Period, therefore creating an environment for the cultivation of different schools of thought, varying from the aggressive doctrines of Legalism in the manner of the Qin to the non-interfering attitude of Daoism and the total withdrawal of Buddhism. In any case, the Han enthusiasm for classical learning, nurtured under a stable political system, could not possibly have survived the uncertainties of the rapid change in ruling power. It is, however, a mistake to overlook the intellectual achievement of the period; the analogy with the so-called Dark Ages in Europe is only valid if the focus is entirely on political instability (Fogel 1985:xvi).

The rationalist thinking of the Han scholar Wang Chong (27-c.100 A.D.) began to be influential in the late second century, and was connected with the revival of Daoism, which was to become a prominent force in the third and fourth centuries. Followers of Daoism include hedonistic figures such as Ruan Ji (210-63) and Ji Kang (223-62), and scholars who concentrated on the serious studies of the Daoist texts such as Wang Bi (226-49), Ge Hong (c.282-343), Zhang Zhan (fl.317) and Guo Xiang (d.312). Such a flourishing of learning, with the momentum maintained

throughout the period, is reflected in the significant influence of the educated class (Tanigawa 1985:116). Meanwhile, the general weakness of the state provided a suitable environment for the propagation of Buddhism, flourishing particularly during the Southern dynasties (420-589), and reaching its height during the reign of Wudi (502-49) of Liang, with a lesser degree of influence in the north.

Confucianism, marginalized, did not completely lose its influence (Hsiao 1979:644). Under these circumstances, it is logical to expect less emphasis on the role of music in the running of the state, as described in the Confucian ritual classics. There are, however, instances when the traditional didactic role of music is pursued, particularly in the third and sixth centuries. Du Kui (fl.220), the music master who had served at both the Han and Wei courts, is, for example, believed to have revived four pieces of ancient ceremonial music, namely Luming, Zouyu, Fatan and Wenwang, the first two referred to in the Yili, but the music, except for the first piece, was lost during the reign of Mingdi of Wei (227-33) (Jinshu 22.684). The enthusiastic acceptance accorded him reflects a significant change in the attitude towards the definition of the perfect musical tradition: there was no longer a desire to pursue the six ancient pieces allegedly composed by the legendary Emperors, but musical settings associated with the Yili were enough to guarantee the quality of music. Du Kui was to remain a preserver of the ancient tradition in the eyes of the practically oriented Confucian scholars of the Ming and Qing dynasties.

The harsh Legalist policies of the Wei and Western Jin rulers from 220-316 had ironically led to the cultivation, amongst scholars, of a desire of withdrawal from state affairs in exchange for a pursuit of individualism, taking advantage of the Daoist inclination towards nature and the numerous possibilities offered by earlier correlative theories (Gernet 1982:206). The most influential figures of this school were the scholars known as the Seven Sages of the Bamboo Grove, who led a bohemian life outside the capital Luoyang. Amongst them, Ruan Ji (210-63) must be

one of the very few ardent supporters of Daoism who had shown his strong support for the role of music in the maintenance of the order of the state, as described in the Liji. Such a view must have only been arrived at after a careful assessment of the nature of music, relating it to heavenly, earthly and human matters, much in the style of the Han New Text scholar Dong Zhongshu:

Music consists of two parts: its body is part of heaven and earth, while its nature is associated with myriad things. If it is possible to make music in accordance to its body and its nature, the result will be harmonious. If, on the other hand, music is composed without any reference to its body and its nature, the result will be chaotic. When the ancient sage-emperors composed music, they did so according to the body of heaven and earth, and the nature of myriad things. As a result, instruments were made according to the eight directions of heaven and earth, so that they would respond to the sound according to the rules of yinyang and eight sources of wind. Likewise, the huangzhong was tuned according to the optimum pitch, which would then create life to emotion and ether of myriad things. When the masculine and feminine pitches are in tune, the twelve pitches are in agreement with the theory of yinyang; when instruments are correctly made, everything will have a clear position in the universe. Men and women will then never forget their own specified roles, while the Emperor and ministers will not interfere with one another. When this is achieved, people of the Four Seas will rejoice, so will the inhabitants of the Nine Provinces. When ceremonial music is performed at the Round Hill, the heavenly spirit will descend; when ceremonial music is performed at the Square Mountain, the earthly spirit will ascend. The combination of the virtues of heaven and earth leads to harmonious existence of all beings. It is then unnecessary to use punishments and rewards to impose order, because the people will find peace themselves.

(Zhongguo gudai yuelun xuanji 107)

Ruan Ji attempted to divide music into its two components: its physical part was compared to heaven and earth, emphasizing its magnitude, while its nature, a more abstract quality, was visualized as all beings in the universe, demonstrating its general significance. Music must be composed according to these criteria. He followed the established idea provided in the Liji that music of antiquity possessed all the necessary qualities to educate the people and to maintain order of the state. His analysis that the basic elements of music such as twelve pitches in the octave and eight kinds of instrumental sound should relate to yinyang and correlative theories was little different from that of the Han Confucianists, yet the emphasis on the correct tuning of the fundamental pitch huangzhong, and its close relationship to the emotion

and ether of things in the universe was an implied endorsement of the practice of houqi, the determination of standard pitches by subjecting pitch-pipes to an air-sealed chamber at chosen periods, a skill to be further developed by Xiong Ansheng towards the end of the sixth century.

While the Yueji stresses the importance of simplicity in good music (Liji 37.8b), Ruan Ji developed this principle further, tracing the origin of music in a typical Daoist manner:

The principle of the qian and kun is simple, so is ceremonial music. Virtue implies blandness, so do the five degrees of music. Simplicity leads to the understanding of the principle of yinyang, while blandness brings joy to myriad things. If the good influence of music is maintained, it can have a gradual but positive effect on human character, and therefore plays the role of changing the customs. This is the meaning of nature, and the way that music begins.

(Zhongguo gudai yuelun xuanji 107)

Ruan Ji compared ceremonial music to the simple idea of qian and kun, trigrams from the Yijing (Book of Changes) representing the masculinity of heaven and the femininity of earth respectively, the foundation by which more complicated combinations of the other trigrams were derived. A simple application of the five degrees in composition would presumably produce music that did not arouse human emotion, therefore maintaining the balance between yin and yang, the qualities governing all beings, living or non-living, in the universe. His reference to the Yijing does not make his attitude to music Daoist, owing to his acceptance of the Confucian idea of the positive influence of music on human beings.

Ji Kang (223-62), a younger contemporary of Ruan Ji and a leading member of the Seven Sages of the Bamboo Grove, held a contrasting view and was open in his disbelief in the recognition of the moral value of music expressed in the ritual classics. In his Sheng wu ai-le lun (Discourse on the Non-emotional Nature of Sound), Ji Kang dismissed the validity of determining the well-being of a state by listening to its music, as described in the opening passage of the Yueji, by first putting

music in the context of other elements of nature, in the manner of Han Confucian scholars of the New Text School: "The virtuous union of heaven and earth brings the beginning of myriad things. The change from winter to summer is accomplished by the five elements. There are also five degrees, which are related to five colours. The existence of music is similar to the presence of different smells in heaven and earth." (Ji Kang ji 66)

In spite of the apparent acceptance of the Confucian concept of the origin of music, Ji Kang refused to make a moral judgement on it by emphasizing the virtue of avoiding the extremities of human emotion, in a typical Daoist fashion:

People of ancient times knew emotion could not be excessive and desires could not be tempted to the extreme. They therefore treated these qualities with caution by means of restraint, so that sadness did not turn into despondency, nor joy into lust... As a result, rites do not necessarily lead to respect, while music does not lead to joy or sadness.

(Ji Kang ji 66-67)

Such a flat denial of the basic Confucian idea of music by insisting on its non-emotional nature, depriving it of its power to influence the character of the people, is contrary to the very idea of the didactic power discussed in the Yueji. In fact, Ji Kang explicitly pointed out that "music has no role to play in the changing of customs." (Ji Kang ji 79) By the same token, he argued that the decadent music of the state of Zheng, condemned by most Confucian classics, particularly the Liji, would not have existed at all if the state were in good order (Ji Kang ji 80). Hence, if the state is in order, there is no need to follow the Confucians in distinguishing music on the basis of its merit.

The political uncertainties of this period, leading to a rapid downfall of the Wei State, prompted a desire to bring stability soon after the establishment of the Western Jin dynasty (265-316). An example is the designation of the duty of re-working the pitches to Xun Xu (d.289) in 274 (Jinshu 16.480). Surely, the motive behind this was to re-establish the correct tradition of ceremonial music, a crucial tool

to initiate stability, broadly in line with the idea of the central role of music in the Yueji.

Little is known about how Xun Xu worked out his pitches, but he managed to find a way to improve the twelve pitches of the basic octave devised by Du Kui earlier in the century (Shizuo xinyu 3a.33a). The same source records that there was disagreement concerning the application of Xun Xu's theory of pitches: practical musicians, led by Yuan Xian (fl.270), pointed out that the pitches were too high, hinting at the failure of Xun Xu's total reliance on theories in standardizing pitches. The argument was to conclude only after an ancient rule believed to be dated to the Zhou period (1066-256 B.C.) was discovered, providing a standard of measurement for the fundamental huangzhong pitch-pipe, which was, according to the practice after the Han, nine inches long, following the suggestion in Ban Gu's Hanshu.

This incidence illustrates the tremendous difficulty involved in relating musical theory to practice. The outcome of intensive scholarly investigation might have satisfied the desperate need for confirmation of an error-proof musical system after generations of political instability, but could, in the mind of a practical musician, be something difficult to accept. Similar disagreement between theoretical and practical musicians was to become more common in the Song dynasty (960-1279), when a revival in Confucian doctrines resulted in a series of active debates on the determination of correct pitch standards. In any case, the apparently contradictory views of decision-makers and executants is still a common feature of administration in modern China.

It had taken Xun Xu a long time to realize the shortcomings of his pitches, before there was any chance to compose any new music (Jinshu 22.693). The same passage describes how Xun Xu's ideas were only partially implemented, and how his son Xun Fan continued the same musical venture, before his effort was completely destroyed by the turmoil in the period of Yong Jia (304-312).

Indeed, during this period of unrest initiated by the Xiongnu from the north, it was difficult to have enough musicians and musical instruments to perform ceremonial music, even if the Confucian value of music was appreciated. It was not until the end of the fourth century that a tradition of ceremonial music is thought to have been gradually restored. Even so, there was still no music for important ceremonies such as the worship of heaven and earth (Jinshu 23.698). Such a painful process of establishing music, based apparently on the idealized ritual practice of the Zhou period recorded in the Zhouli, reflects the determination of the rulers to restore some form of dignity before embarking on more ambitious plans, such as the standardization of length, weight and volume, and the bringing of order to the state.

Understandably, this is a period when the scholarship of neo-Daoism flourished, culminating in the writings of Ge Hong (c.282-343), Zhang Zhan (fl.317) and Guo Xiang (d.312). These masters, in their interpretations of the earlier Daoist writings by Laozi and Zhuangzi, re-echoed their objections to treating music as a tool of government, and to the ideas of music in the Confucian ritual texts. Their ideas were based, of course, on the assumption that in an ideal state, where everything was in good order, it was not necessary to impose strict measures to control the subjects.

Buddhism was to exert a greater influence on China after the establishment of the Jin capital in the south in 317, in the period known as the North and South dynasties, or the Six Dynasties. Although Buddhist influence was notably stronger in the south, the Toba rulers of the Northern Wei (386-534) found Buddhism a convenient means of establishing a Chinese identity (Loewe 1990:31). Realizing sinicization as an inevitable step towards a stable government, the northern rulers also found it necessary to institute a system of ceremonial music. In 494, during the reign of Emperor Xiaowen (471-500) of the Northern Wei dynasty, Gao Lu (d.502) was given the task of regulating music, but he was only able to complete the process of standardization of pitches, apparently based on the ideas of the Zhouli, Guoyu

(Discourses of the States) and the Han theorist Jing Fang (77-37 B.C.) (Weishu 107a.2657-58). There is, however, little information on how he made use of these sources.

Gao Lu's mission was to be taken up by Gong Sunchong (fl.500) during the reign of Emperor Xuanwu (500-16) of the Northern Wei. His attempts at such a venture, based on the measurements of an old bronze measure and alignment of millet grains, were challenged by officials such as Liu Fang (fl.510) and Yuan Kang (fl.510) in the Department of Rites, who proposed different ways of aligning millet grains in determining the lengths of the pitch-pipes (Weishu 107a.2658-59). The reliance on an old standard of measurement for determining the length of the fundamental pitch-pipe enhances the credibility of the procedure owing to the general belief that virtue is associated with antiquity. Similarly, the use of millet grains has the advantage of relating the fundamental pitch to an important plant, which could, in the eyes of a Confucian scholar, only be grown if nature is in a state of balance. Advocates of these methods believed that it was possible to re-create a correct standard of pitches, but they were to be challenged, particularly after the Northern Song dynasty (960-1127), by theorists who insisted that pitches had to come before measurements of length, weight and volume.

The argument about pitches centring on measurements was to continue during the reign of the next Northern Wei Emperor Xiaoming (516-28). When the music master Chen Zhongru (fl.520) was asked to standardize the pitches in 519, he did so not only based on mathematical arguments, but also on moral grounds. He objected to the accepted practice of limiting standard pitches to the twelve in the basic octave, and argued forcefully in favour of exploring the idea of sixty pitches put forward by the Han New Text scholar Jing Fang (77-37 B.C.), an extension of the original twelve pitches based on the mathematical theory of the Method of Triple Division by the

alternative adding and subtracting of a third of the length of the fundamental pitch-pipe huangzhong (Weishu 109.2833).

Chen Zhongru's reason for the advocating of sixty pitches was based on his understanding that the Method of Triple Division was imperfect, owing to the impossibility of generating the original huangzhong from the twelfth pitch zhonglu, a fifth below, and an assumption that such an inaccuracy could be rectified by extending the calculation to the sixtieth pitch:

Take the longest pitch-pipe huangzhong as gong degree, taicou as shang and linzhong as zhi, then the gong and zhi degrees are harmonious. It is still necessary to blend these with eight sources of instrumental timbres to make perfect music. If the shortest pitch-pipe yingzhong is taken as gong degree, dalü as shang and ruibin as zhi, then the zhi is lower than the gong degree. Although these pitches are available, it is impossible to compose music using this system. If yize is taken as gong degree, the only possibility is to take zhonglu as zhi, and the corresponding shang, jue and yu degrees will be discordant. If zhonglu is taken as gong degree, there is not a single pitch from the basic octave that is usable. This is because zhonglu is the last of the twelve pitches, and the first to alter its tuning.

(Weishu 109.2834)

Chen Zhongru therefore saw no difficulty in applying the Method of Triple Division in the generation of pitches if he was to restrict it to the fixing of the gong degree to the fundamental pitch huangzhong. The reference to the eight kinds of instrumental sound was to strengthen his argument that the music would be harmonious if the relationship of the twelve pitches and five degrees was so maintained. If, on the other hand, the gong degree is fixed to pitches such as yingzhong, yize¹ and zhonglu, there would be difficulties arising from inaccuracies in intonation and the way degrees are arranged. His example of fixing the gong degree to the shortest pitch-pipe yingzhong illustrates one important point that was to be developed by music scholars in the Song dynasty: the gong degree represents the Emperor and therefore has to occupy a more important position, that is, lower than the shang and jue degrees, which represent ministers and the people within the hierarchy of the state, a musical application of the moral concept discussed in the

Yueji in composition and in the design of the bianzhong and bianqing, sets of bells and sonorous stones on a frame. The suggestion of adopting Jing Fang's theory of dividing the octave into sixty pitches demonstrates that Chen Zhongru was not at all concerned with the practical aspect of music-making.

It seems, after all, the effort of these scholars was in vain, as most of the instruments at court, and the acoustic theories behind them, were declared to be lost in 528, when Luoyang, the capital established by the Northern Wei ruler in 493, was sacked (Weishu 18.427). During the reign of Emperor Xiaozhuang (528-30), Yuan Fu (fl.530) was ordered to restore the musical tradition at court, with a hope of bringing back order to the state. He first examined the conditions of the instruments left behind. Instead of proposing yet another set of complicated theories, he made twelve fundamental pitches according to the twelve calendar months, and claimed, in doing so, he had adhered to the spirit of the Zhouli and the Liji, a simple solution to a complicated problem (Weishu 18.428). The moral basis of the ritual classics definitely overshadowed the arbitrary approach of the music official. The resulting system of pitches was therefore subject to challenge very easily.

As expected, during the short reign of the last Wei Emperor Xiaowu (532-34), officials Changsun Zhi (fl.530) and Zu Ying (fl.530) were assigned the duty of looking after court music. Besides condemning the futile effort of their predecessors in arriving at the wrong pitches, they pointed out specifically that the bells in the main palace and neighbouring courts were wrongly tuned to the mode of yize, instead of the theoretically correct modes of huangzhong, guxian and taicou. They also rejected the current practice of suspending fourteen bells and sonorous stones on the frames of the bianzhong and bianqing, and recommended sixteen pieces instead, using, as an authority, the commentaries on the Zhouli by the Han Confucian scholar Zheng Xuan (127-200 A.D.), who, of course, did not mention exactly how the bells were tuned.

Changsun and Zu suggested the positioning of four sets each of bells and sonorous stones for court and sacrificial music (Weishu 109.2837-41).

In contrast to the earlier theoretical attempts on pitches, Changsun Zhi and Zu Ying managed to conduct a more thorough investigation into the arrangement of instruments in the performance of ceremonial music. This was a step nearer to the realization of the Confucian ideal of exploiting the moral qualities of music in order to maintain order in the state. Yet there was little indication that the two music scholars ever managed to persuade the Emperor to accept their proposed changes, or that they overcame other technical difficulties, such as the provision of music and musicians, in the delivery their official duties. Meanwhile, the debate on pitches lingered on until 550, apparently with no definite conclusion (Weishu 107a.2658-59).

The desire for exact construction of pitch-pipes did not die away. During the short dynasty of Northern Qi (550-76), the Confucian scholar Xiong Ansheng (c.500-c.585) revived the Han idea of Watching for the Ethers by following the plan of the Yueling (Monthly Commandments) in the Liji by positioning twelve pitch-pipes in a draft-free chamber. The arrival of the ethers at the appropriate time - for example, the winter solstice for the huangzhong pitch-pipe - was detected by the blowing of weed ashes from the pitch-pipe. The degree of movement of the ashes could be used as a standard of measurement of the success of the administration of a state. Xiong believed that a small movement of the ashes would indicate a good maintenance of the hierarchy of the state, while a large movement or no movement would mean an imbalance of power within the administration (Bodde 1959:21). This non-musical use of pitch-pipes, involving the finest mathematical and moral judgements, was to continue until the seventeenth century, but debates on its merits went on for another century. Part of the exercise is akin to the ancient custom of collecting folk-songs and poetry, with the intention of studying the feeling of the people. The absence of a

proper musical system would therefore have denied the Emperor this most fundamental right.

In the Southern Empire, the tremendous influence of Buddhism led to the endorsement of Emperors Wudi (r.483-94) of Qi and Wudi (r.502-50) of Liang in the discussion and organization of the performance of Buddhist music (Nanqishu 41.689). The ritual texts, or indeed other Confucian classics, had little effect on ceremonial music.

Throughout this period of short-lived dynasties, Confucianism only played a relatively minor role in the formulation of state policies. There was, however, never any official denial of the validity of music as an essential tool in stabilizing the state, a point often discussed in the Liji, in spite of the influence of Legalism, Daoism and Buddhism. Most of the debates on music concentrated on the determination of correct pitches, the first criterion in proper administration of music for the state. Although there were significant contributions by the theorists, their ideas were seldom put into practice, largely owing to political instability. The Confucian doctrine concerning music expressed in the ritual classics ensures stability of the state by imposing virtuous music on the people, but the failure to achieve a stable political environment limits the chances of exploiting the virtuous quality of music, thus depriving rulers of this period of a convenient tool of administration. Theoretically, the unification achieved in the Sui dynasty (581-618) and the ensuing long period of centralized control in the Tang dynasty (618-907) should have guaranteed a satisfactory implementation of music in the Confucian sense, but such a practice was inhibited by uncontrolled Buddhist and foreign influences at all levels of society.

Notes

- ¹ Concerning the mode of yize, he must have meant to take zhonglu as the sixth degree yu. Then the next clause should read: "its corresponding shang, jue and zhi are discordant."

Chapter 3 The Sui (581-618) and Tang (618-907) Dynasties: The Challenge to Confucian Values in Music

The Sui (581-618) and Tang (618-907) dynasties make up a period which saw a determination to maintain a strong centralized government. Confucianism, which had demonstrated its strength in the Han dynasty, should have been the ideal doctrine for the rulers of this period. The difficulty, however, arose from the fact that the Sui rulers, themselves foreigners from the north-west, found Buddhism a more obvious means to facilitate unification, owing to the strength of the Buddhist cult from the south (Twitchett 1976:5).

The state support of the Sui given to Buddhism led to a continuous increase of its social and economic influence. Buddhism remained a vital force in the first two centuries of the Tang dynasty, during which the Tang ruling family was always aware of the threat to its central power. It can also be argued that the private admiration of Daoism by Emperors such as Xuánzong (r.712-56), Dezong (r.780-805), Xianzong (r.806-21) and Wuzong (r.841-47), prompted by the belief that they were the descendants of Laozi (c.604 B.C. - ?), the writer of the Daodejing (Classic of the Way and of Virtue) and founder of Daoism, guaranteed the state's prolonged sense of mistrust of Buddhism (Twitchett 1973:7, 13). Successive Emperors had tried to undermine Buddhism when opportunities arose, but had little real success, until the more determined proscription of foreign religious establishments in 845, during the reign of Emperor Wuzong (841-47).

In spite of the reliance of the Sui and Tang rulers on Buddhism, Confucianism still had a role to play in the establishment of the authority to rule. In any case, this was a natural course to take, as rulers of both dynasties drew such inspiration from their Han counterparts. They found the Confucian doctrines, with proven success some centuries earlier, too obvious an option to miss (Twitchett 1973:14).

The appointment of Su Wei (534-621) by Emperor Wendi, the founder of Sui, to promote Confucian ideas of administration immediately after unification shows a realization of the intrinsic value of the doctrine in bringing stability to the state (Wright 1978:78). Similarly, the early Tang Emperor Taizong (r.627-50) attempted to impose a standardized doctrine on a relatively new Empire of diverse culture by promoting scholarship in classical texts and their interpretations, leading to the establishment of the Wujing zhengyi (The Five Classics with Orthodox Interpretations), involving classical scholars such as Kong Yingda (574-648) and Jia Gongyan (fl.640) (Twitchett 1973:16). These and other less noticeable attempts did not, however, lead to the flourishing of Confucian doctrines, so long as Buddhism remained a superior force. It can be argued that Han Yu's (768-824) anti-Buddhist essay of 819 sowed the seeds of the heavy-handed action against the religion a few decades later, giving an opportunity for Confucianism to consolidate its position. By then, a complete reassessment of Confucian doctrines, which did not happen until the next unified dynasty, was inevitable.

Sui Efforts in Establishing Music

The Confucian idea of using music to bring stability to a state, as expressed in the Yueji, must have obsessed Emperor Wendi (r.581-604) of the Sui dynasty. Such a desire was facilitated by his attempt to give a moral definition to music. He apparently responded to a petition from his music official Yan Zhitui (531-c.595), who suggested reviving the ancient tradition of music by removing the foreign elements of the music of the Liang dynasty (502-57), an obvious but not easily attainable target. As a result, the ceremonial music of the Northern Zhou dynasty (557-81) was adopted, presumably owing to its alleged similarity to the practices of the idealized ancient Zhou period (1066-256 B.C.). The lack of confidence on the part of the Emperor can be illustrated by the number of additional musicians he

entrusted with the revision of the existing musical tradition, including Qi Shuti (fl.580), Zheng Yi (540-91), Niu Hong (fl.580), Xin Yanzhi (fl.580) and He Tuo (fl.580) (Suishu 14.345).

In spite of the effort of Yan Zhitui, foreign elements still had a profound effect on Sui ceremonial music. Zheng Yi (540-591), one of the more important music officials, made use of the then foreign pipa, a four-string plucked instrument, to work out the twelve standard pitches and eighty-four modes, before he embarked on testing the pitches of the instruments at the Music Office, the first step to ensure proper performance of ceremonial music. The pipa gradually became an important instrument for solo and ensemble music, particularly in the Tang dynasty, when the expressive quality of the instrument inspired the poet Bai Juyi (772-846) to write his poem Pipa xing (Song of a Pipa Player) in 816 during his banishment to Jiangzhou, leading to similar work by Yuan Zhen (779-831), but it was never recognized as part of the eight timbral sources of instruments in ceremonial music. Zheng Yi's obsession with the pipa was considered to be in conflict with his more official role in music. It would have been difficult for him not to allow his experience with foreign and secular music influence him in the interpretation of the modes for ceremonial music. It has been recognized that he had some confusion over the exact pitch on which a mode should have been based (Cheung 1974:165).

Such a confusion was the result of the failure to understand the different positions of the fourth degree bianzhi in the heptatonic mode with respect to the first degree gong, in ceremonial and secular / foreign music of the time. For example, if huangzhong is C, the fourth degree bianzhi is interpreted as ruibin F# in ceremonial music, but the same degree of the same mode in secular and foreign music of the time is zhonglu F. The huangzhong mode in ceremonial music is therefore identical in pitch relationships with the mode based on the fifth degree linzhong G in the latter types.

It becomes clear that Zheng Yi's application of foreign and secular musical theories to ceremonial music had led to the formation of a new degree ying, a semi-tone above the first degree. This is due to the frequent use of the zhi mode in secular and foreign music of the time, which, when translated into ceremonial music, becomes the shang mode. The new degree ying is therefore equivalent to the seventh degree biangong in traditional ceremonial music (Cheung 1974:168).

Such a compromise, involving the accommodation of a new degree to the well established seven degrees (the pentatonic mode gong, shang, jue, zhi and yu plus two bian degrees, the biangong, a semi-tone below the gong, and the bianzhi, a semi-tone below the zhi), can be seen as a sign of slackening of Confucian musical ideals. Foreign music was to exert even a greater degree of influence at the Tang court, where the only appropriate musical tradition kept was the arrangement of instruments and dancers.

By 589, Emperor Wendi had enough confidence in the newly defined pitch system to order his minister Mao Shuang (fl.590) to administer the practice of Watching for the Ethers, a procedure involving the setting up of twelve correctly tuned pitch-pipes in a sealed chamber, leading, theoretically, to the reaffirmation of the ruler of his mandate to rule and proper accomplishment of his duties. Although there is no record of the results of the experiment, Emperor Wendi challenged the anticipated observations based on the degree of movement of the ashes at the pitch-pipes, and their relationship to the administration of the state (Bodde 1959:22-23).

Having settled on the pitches, the next step was to institute a system of ceremonial music. Inspiration was drawn from the ritual classic Zhouli (Rites of the Zhou), owing to its technical description of ritual music, and possibly to the legacy of the admiration of the ancient Zhou in the preceding Northern Zhou dynasty (557-81). The modal arrangement of sacrificial music, established during the reign of Emperor

Wendi, was remarkably close to the description of the performance of the six ancient pieces in the ritual canon:

Instrumental Performance: Masculine Modes	Vocal Performance: Feminine Modes	Venue of Sacrifice
Huangzhong	Dalu	Round Hill
Taicou	Yingzhong	Square Lake
Guxian	Nanlu	Five Territories, Middle Kingdom
Ruibin	Linzhong	Ancestral Temple
Yize	Xiaolu	Spirits, Sages of Agriculture
Wuyi	Jiazhong	Hunting Spirits, Square Mountain

(Tongdian 142.740)

While the Zhouli only juxtaposes one masculine and one feminine pitch for the performance of each of the six ancient pieces, Yunmen, Xianchi, Dashao, Daxia, Dahuo and Dawu, the scheme adopted by Emperor Wendi gives a more precise interpretation of the pitches by specifying them as modes, making it more possible for performance. There are, however, different ways of applying these pitch-modes, depending on the degree a section of music begins and ends. Musicians at the court of Emperor Wendi also took a more realistic approach in the transmission of the ancient tradition of music: the names of the six ancient pieces in the Zhouli were omitted, while only mentioning where the music was to be performed. The implication was that it would be acceptable to perform music composed at a later date so long as it followed the pitch patterns provided in the ritual classic. The same passage of the Tongdian (Encyclopaedic History of Institutions) also records the performance of civil and military dances in all of the above ceremonies, referred to in the opening section of the Yueji, and the eight and nine sections of music performed

at the Round Hill and the Ancestral Temple, a reference to the Zhouli. Music scholars at the court of Emperor Wendi found the Zhouli a convenient source owing to its inclusion of technical information on ceremonial music. It was also seen as a more creditable source after the Han dynasty, because the prejudice against the ritual classic by New Text scholars had subsided considerably.

In spite of the development of the complicated pitch and modal theories of Zheng Yi and the apparent establishment of a system for sacrificial music, Emperor Wendi ordered He Tuo (fl.590) to revise the pitches in 593. He Tuo had little new to offer concerning the formulation of absolute pitches, but he managed to persuade the Emperor to designate huangzhong as the only pitch for the gong degree, therefore restricting the performance of ceremonial music to the gong mode of huangzhong and other modes derived from these pitches. In practice, such a proposition was not taken seriously: when music was performed in the mode of ruibin instead of huangzhong, nobody, including He Tuo, detected any difference (Suishu 15.351-54).

He Tuo's view of constructing modes based on the pitch huangzhong alone emphasizes its importance over the other eleven pitches in the basic octave. The association of huangzhong with the gong degree provides an opportunity for theorists to relate this fundamental pitch to the Emperor, the supreme position of the five hierarchies of the state defined by the Yueji. On the other hand, the failure in fixing the gong degree to the other pitches limits He Tuo's chances of complying with the idea of designating a different pitch to a particular month in the chapter Yueling (Monthly Commandments) of the Liji. His rather limited approach in the construction of modes was not to be taken seriously by later theorists, but few would challenge the superiority of the pitch huangzhong, particularly scholars in the Song dynasty, who diverted a lot of attention to its correct establishment. The fact that music was wittingly or unwittingly performed in a wrong mode demonstrates there is

little connection between theorists and practical musicians, a phenomenon also common in the Song dynasty.

The musical experiments during the reign of Emperor Wendi, conducted in different degrees of complexity, did not bear much concrete result. The most sophisticated theory was Zu Xiaosun's (fl.600-30) continuous application of the Method of Triple Division in dividing the basic octave into 360 pitches, an idea based on the extension of the Han scholar Jing Fang's sixty pitches, and similar to that of Qian Lezhi (fl.430) of the Liu-Song dynasty (420-79) (Jiu Tangshu 28.1040). This might have satisfied Zu's desire to demonstrate his mathematical skills, but there is, of course, no evidence that his complicated theory was ever seriously considered.

Emperor Yangdi (r.605-17), who ascended the throne after murdering his father, made a special attempt to establish himself as a virtuous ruler of the idealized past (Wright 1978:173). A number of musicians, amongst them Liu Yuanyan (fl.600) and Fei Yun (d.618), were appointed to re-establish ceremonial music. Attention was given to the increase of the number of instruments and performers, rather than exploring new ideas for music theory, because Zheng Yi's idea of pitches and modes, involving the use of a new degree ying, was adopted. It is ironical that the idea of expanding the early Sui practice of using twenty frames of pitched percussion instruments to thirty-six was not based on any earlier models, but on that of Emperor Wudi (r.502-50) of the Liang dynasty, a staunch advocate of Buddhism. By then, most theorists and practical musicians at the Sui court realized the difficulty of achieving the Confucian ideal of music, as the pursuit of lavish ensembles and inevitable foreign influence had made this unattainable. Ceremonial music, in the words of officials in charge of music, was indistinguishable from the decadent music of the states of Zheng and Wei (Suishu 15.373-74).

Unfortunately, the realization of the symptoms did not necessarily lead to the discovery of a solution. In order to check the musical decadence of Yangdi, the

senior official Pei Yuan assembled some three hundred musicians, excelling in court and folk-music traditions, to perform ceremonial music. These musicians, mainly recruited from the former states of Zhou, Qi, Liang and Chen, were naturally more accustomed to foreign and secular music, castigated as music for degenerating states in Confucian terms, rather than to ceremonial music (Tongdian 142.740).

Confucian Values in Music Against Buddhist Influence

This chaotic scene, caused by the difficulty of distinguishing ceremonial music from secular and foreign music, was to continue in the ensuing Tang dynasty (Kishibe 1973:602). However, there were regular attempts, notably during the reign of Taizong (r.627-50) and Xuánzong (r.712-56), the golden periods of the Tang, to revitalize the tradition of ceremonial music, under the shadow of strong Buddhist influence, with an obvious intention to exercise traditional Confucian control over the people.

Emperor Taizong was quick to point out the shortcomings of the court musical tradition that he had inherited from the previous dynasty. In fact, it did not need a mind of his calibre to condemn the undesirable foreign influence and possible effect it might have on the people. Soon after he became Emperor, he ordered ministers of the ritual department Zu Xiaosun (fl.600-30), Lu Cai (fl.620) and Zhang Wenshou (fl.620) to devise a new musical system (Tongdian 142.740).

In a conversation with his music officials, Taizong, while admitting music had been an effective tool of the sage-emperors in educating their people, emphasized the importance of being able to appreciate music beyond the sheer physical impact it might generate (Zhenguan zhengyao 7.109-10). This high-sounding comment, akin to the ideas of the Han rationalist Wang Chong and the Wei neo-Daoist Ji Kang, is in contrast to the elaborate musical system proposed by his music officials.

In terms of pitches, Zu Xiaosun did not seem to mind what he had inherited from the Sui dynasty, in spite of foreign influence. He had by then abandoned the complicated theory of 360 pitches in the octave put forward during the reign of Emperor Wendi of Sui some three decades earlier. His new theory did not come from a scholar with a strong mathematical bent, owing to his acceptance of the simple concept of twelve fundamental pitches, worked out according to the number of calendar months. While the Sui practice under the influence of He Tuo only allowed huangzhong to be the pitch of the first degree gong, Zu Xiaosun lifted such a restriction, allowing more variety (Tongdian 143.748). It also allowed Zu to comply with the changing pitch patterns suggested in the Yueling (Monthly Commandments) in the Liji.

In the same passage, the Yueji is quoted as a source of inspiration for the naming of dynastic music as he (peace), owing to the homonym which has the meaning of harmonious musical effect, the outcome of great ceremonial music, which co-exists with heaven and earth, and a manifestation of a prosperous state. For the sacrifices at the Round Hill, Square Lake and Ancestral Temple, a ritual concept derived from the Zhouli, Zu Xiaosun followed the modal description in Ban Gu's Hanshu (History of the Han Dynasty), using gong modes of huangzhong, linzhong and taicou respectively, instead of the system outlined in the ritual text. Zu Xiaosun's example was to be honoured by the authors of the compendium Lulu zhengyi (Collected Basic Principles of Music) in the Qing dynasty (1644-1911).

The ritual classics had a more profound influence on music during the reign of Emperor Taizong after the death of Zu Xiaosun. His successor, Zhang Wenshou (fl.620), claimed to have adhered to the principles of the three ritual canons when he revised the ceremonial music. The modal structure described in the Zhouli was applied, without alterations, to the sacrificial rites of heavenly, earthly and ancestral spirits, although the dances, using the nomenclature he (peace), are different:

Ceremony	Modes	Dance
Sacrifice to heavenly spirits	Huanzhong (jiazhong) as gong Huangzhong as jue Taicou as zhi Guxian as yu	Yuanhe
Sacrifice to earthly spirits	Hanzhong (linzhong) as gong Taicou as jue Guxian as zhi Nanlu as yu	Shunhe
Sacrifice to former Emperors	Huangzhong as gong Dalu as jue Taicou as zhi Yingzhong as yu	Yonghe

(Tongdian 143.748)

Zhang Wenshou adopted the four modes for each of these ceremonies in the Zhouli, but had replaced the original ancient pieces Yunmen, Xianchi and Dashao by the more recently composed Yuanhe, Shunhe and Yonghe, pieces bearing titles endorsed by the Tang court. This is an indication that Tang music theorists took a more realistic view that it was impossible to go on pursuing the lost ancient pieces composed by sage-emperors. There is also no reference to notional instruments in the Zhouli, including the special kinds of drums, guan, qin and se, nor to any special effects of the music, such as the appearance of heavenly, earthly or human spirits. The sole emphasis was on the borrowing of the modes from the ritual classic.

The same passage describes the practice of alternating the six masculine and six feminine modes between instrumental and vocal ensembles, adopted from the method of performing the six ancient pieces in Zhouli without any changes. The acceptance of these fine musical details could not have come as a pure coincidence, because Emperor Taizong was reported to have a high regard for the ritual text (Quantangwen 2073-74).

The notion of the ritual classics served the purpose of establishing a musical system which had a superficial resemblance to that of the idealized past, a convenient way to achieve recognition. The inherent quality of antiquity of the ritual classics was valuable to administrators who had suffered long periods of instability. Moreover, the imprecise nature of the texts allowed a great degree of freedom in their interpretation. Yet such a total reliance on the ritual texts can be seen as a symptom of Confucian learning in the period; it could be taken as a sign that there was not enough active debate on the doctrine, and hence the absence of new ideas (Loewe 1990:110). In any case, ceremonial music had constantly to find its own position in the Tang dynasty, owing to the proliferation of entertainment music, in spite of the high moral regard declared by the state.

The next phase of Tang history was dominated by the much condemned Empress Wu, who took effective control of the government in 660, and declared herself the legitimate successor to the throne of a newly created Zhou dynasty thirty years later. In spite of her apparent admiration for the sage-rulers of the perfect past, she had to turn to the Dayunjing (Great Cloud Sutra) to consolidate her position, further increasing the influence of Buddhism (Tonami 1988:28).

Confucian ideas on music must have made enough impact on the Empress for her to write a treatise entitled Yueshu yaolu (Records of the Essentials in the Book of Music), three chapters of which have been preserved through the Japanese scholar Kibi no Makibi (fl.716-35). As in the beginning of the Yueji, the relationship between sound, pitches, music and poetry is explored, incorporating the further idea of masculinity and femininity into the text:

Sound is the basic substance of pitches, and the organization of the former leads to the formation of the latter. Sound and pitches are the essential elements of music. Music, however, cannot exist by itself: it must be used in conjunction with poetry. Since poetry is the expression of masculinity, it has to be combined with music, a tool of the same gender.

(Yueshu yaolu 5.9b)

The origin of music described here is similar to the Yueji, which presents a slightly different picture by attributing the existence of sound as a human response to external objects, before elaborating how music is formed by organizing pitches. In spite of the close relationship between music and poetry, their marriage here is illogical, and certainly against the rules of yinyang, owing to both of them being classified as masculine. The treatise also distinguishes sound according to its moral quality, in a manner akin to a Han Confucianist excelling in correlative theory: "If the sound is harmonious, so is the colour of wood and stone. If the sound has extreme emotion, wind and cloud will be set in wild motion." (Yueshu yaolu 5.9b-10a) The message is clear that only harmonious sound matching the five elements would have a desirable effect on human beings. In the same passage, the importance of good music is emphasized by referring to the legendary Emperor Shun, who is described as having judged the well-being of a state by listening to its music.

In this context, the five degrees (gong, shang, jue, zhi and yu) are paired with the five-fold hierarchy of the state (Emperor, ministers, people, affairs, matter), as in the Yueji. There is, however, a more carefully devised system here, describing the chain effect of the proper disposition of each degree, covering the individual, the family, the state and the universe (Yueshu yaolu 5.9a-9b). The moral implication of each degree is elaborated at least to the same extent, if not further, than the Han Confucianists.

The construction of pitch-pipes outlined in the Yueshu yaolu is based on the theories of Han and pre-Han Confucian ideas, totally ignoring the more recent developments in the Sui dynasty, presumably to keep out foreign influence (Yueshu yaolu 6.2b-13a). The pitches and degrees are also related to the twelve calendar months, as in the chapter Yueling (Monthly Commandments) in the Liji and other Confucian sources (Yueshu yaolu 5.5a-6a). The close relationship between the

Yueling and the experiment with pitch-pipes affects how the Yueshu yaolu proposes to test the accuracy of the pitches.

Indeed, the firm belief of the Empress in the theory of Watching for the Ethers allowed her to include a historical account of the practice, involving a more recent source, Yueshu zhutufa (Commentary and Illustrations for the Book of Acoustics and Music), by Xin Dufang (? - c.550) of the Northern Wei dynasty (Robinson 1962:189-90). This further illustrates her acceptance of the intimate relationship between pitches, nature and the state, in spite of the established foreign influence of music in her reign.

The Didactic Role of Music Against the Proliferation of Entertainment Music

The next Emperor Xuánzong (r.712-56) succeeded in leading the state to a relatively long period of prosperity, partly owing to his ability to make a fine balance between the three traditional doctrines, namely Daoism, Buddhism and Confucianism. In public, he appeared to be even-handed, a fact illustrated by his involvement in writing commentaries on the Daoist Daodejing (Book of Virtues), the Buddhist Vajrachedika-sutra and the Confucian Xiaojing (Classic of Filial Piety) (Twitchett 1973:24). What happened privately for such a public figure matters more. Like most of the other Tang Emperors, he was a devout Daoist (Twitchett 1973:7). It is natural to expect him to give precedence to Daoist and Confucian doctrines over those of Buddhism, owing to anxiety about the surge of power of the last immediately before his reign.¹

Prosperity in the reign of Xuánzong is best illustrated by the expansion of music institutions, accommodating some thirty thousand performers at its peak (Kishibe 1973:5). Such an expansion began with the establishment of the Left and Right Music Academy in 714, and followed by the Inner Music Academy, Two Kinds of Music, Four Types of Music in the Ministry of Rites and Music, and Pear Garden,

all concerned with the performance of foreign and secular music. The dominance of such kinds of music in this period is further exemplified in three Tang musical treatises devoted to the subject, namely Cui Linqin's Jiaofang ji [An Account of the Female Music Schools] of 765, Nan Zhuo's Jiegu lu [On the History of the Jie Drum] of c.848 and Duan Anjie's Yuefu zalu [Miscellaneous Collection of the Music Office] of 890 (Gimm 1966:53-58).

Yayue, the traditional ceremonial music, was to have a very different fate. It was put under the administration of a small department in the Ministry of Rites and Music (Kishibe 1973:24). The sentiment expressed in the poem Libuji (Standing Musicians) by Bai Juyi (772-846), describing the lot of the less privileged standing musicians, serves as an important stimulus for the investigation of the ceremonial music at the court of Xuánzong:

The standing musicians
Play the drums and flutes.
They wave their double swords,
And dance with seven little balls.
The gentle female dancers throw their long ropes
And make way for their long poles.
The standing musicians in the Ministry of Rites and Music have different ranks:
Those that perform in the hall sit,
While those in the terrace stand.
The sitting musicians in the hall sing along with the sheng (mouth organs),
While the standing musicians play the gu (drums) and di (bamboo flute).
The audience listens to the music in the hall with care,
But no one pays any attention to the performance in the terrace.
The standing musicians are despised,
But the sitting musicians are honoured.
A sitting musician who does not live up to expectation is demoted to the standing rank,
So that he can play the sheng and perform acrobatics.
What can a standing musician be demoted to?
He will have to stand beside frames of bells and sonorous stones to perform ceremonial music.
The deterioration of ceremonial music is to such an extent
That pitches are adjusted by these inferior musicians.
For the sacrificial rites of heaven, earth and ancestors,
How can these musicians perform music to move the gods and spirits?
If one is looking forward to the peaceful scene of the arrival of the phoenix
and the dance of the hundred beasts,

It is no different from the attack of the Zhu State by enemies from the north.
The performers of ceremonial music are of such low quality,
So, what are you, the three ministers of Rites and Music?

(Quan tangshi 4691)

The poem, dated 808-10, was intended as a warning against the further deterioration of Confucian values, especially after the turmoil of the Rebellion of An Lushan (d.757) in 755, caused principally by a long period of foreign influence (Levy 1971:17). It does, at the same time, give a faithful portrait of music at the Tang court during the reign of Emperor Xuánzong. The standing musicians, the inferior of the two categories involved in the performance of a new kind of feast music, ironically called Xin yayue (New Ceremonial Music), could still secure a living by performing ceremonial music, if they were unable to cope with the higher demand of their original duties. In any socially conscious mind like that of Bai Juyi, the state of ceremonial music can only be as good as the status of the musicians involved with its performance.

Nevertheless, Xuánzong was fully aware of the significance of ceremonial music when he became Emperor. In spite of the strong foreign influence on music, he was reported to have declared his intention of revising the pitches, so that they were not in any conflict with the theory of the five elements. As a result, music will not become emotional or decadent (Quan tangwen 24.328). He went on to rename the ceremonial music at Datang yue (Great Tang Music), drawing inspiration from the titles of the six ancient pieces, well documented in the three ritual classics and other Confucian texts (Quan tangwen 24.329).

The ceremonial music in the reign of Emperor Xuánzong was essentially identical, at least in theory, to that established by Emperor Taizong, with a set of pieces Yuanhe, Shunhe and Yonghe performed in the sacrificial rites for heaven, earth and ancestors respectively. The number of episodes, varying from six to eight or

nine, was clearly drawn from similar descriptions in the Zhouli, as are the modes assigned to each piece (Tongdian 142.740-41).

The position paper written by the senior military official Zhao Shenyang (fl.720) in 720 draws attention to some of the deficiencies of the music accompanying ancestral sacrifice. One of the points raised was the pairing of an instrumental section in the mode of taicou with a vocal section in the mode of huangzhong, clearly a breach of the principle of traditional yinyang theory, since both modes were masculine. Zhao's suggestion, thoroughly Confucian, was to stick to the description in the Zhouli, substituting, for the mode of the vocal ensemble a feminine one, yingzhong. The same ritual classic was quoted in establishing a strict criterion in the selection and training of dancers involved in the ceremony. The only suggestion different from the original idea of the ritual text was the substitution of the shang mode for the jue mode, as the changes of the five elements had made this necessary (Tang huiyao 593-94).

In the same article, Zhao Shenyang regretted the poor quality of dancers performing in sacrificial rites, owing to their unpresentable appearance, a consequence of deprived family background. The remedy suggested was derived from the Zhouli: boys under twenty from respectable families were chosen to be trained for a period of ten years under state sponsorship, so that they could acquire a thorough background in rites and music. Zhao's academic approach to an archaic practice must be totally out of place in his time, given the attention devoted to entertainment music of all kinds.

Zhao Shenyang's criticisms of the manner of performing ceremonial music at court were not shared by officials at the local level; they still had high regard for the Ministry of Rites and Music, owing to the total absence of ceremonial music in the provinces. According to Pei Yaoqing (681-743), the practice of local dining ceremony had long been abandoned. Pei, writing to the Emperor before he was

transferred to the Grand Secretariat in 742, emphasized the merit of re-instituting such a rite:

When I was assigned to the province Ningzhou, I tried to organize officials of the area to perform rites and music, so as to educate the people. When the pieces Baihua (White Blossoms), Huashu (The Millet in Flower) and Yougeng (All in Their Kind) were performed, putting across the messages of piety and virtuous behaviour, those who were in sympathy would weep... It is desirable to ask the Ministry of Rites and Music to provide training for those able local musicians.

(Quan tangwen 276.3808)

From Pei Yaoqing's description, it is obvious that the neglect of Confucian values in music was widespread at all levels under Emperor Xuánzong's administration. To sum up the state of ceremonial music in his reign, it is perhaps apt to quote Bai Juyi's poem of c.809, entitled Huayuan qing [The Sonorous Stones from Huayuan], making use of a new kind of sonorous stones to mock the decadent influence of the Pear Garden, an institution devoted to the training and performance of entertainment music supervised personally by Emperor Xuánzong, considered the major cause for the downfall of ceremonial music:

Sonorous stones from Huayuan, sonorous stones from Huayuan,
These were not heard by the ancient people but are for the people of this age.
Sonorous stones from the River Si, sonorous stones from the River Si,
People of this age do not play them, but the ancient people did.
Why should the practice of people of this age differ from that of the past?
The decision is for the musicians.
They might be there, but their ears are like walls,
That they cannot distinguish high and low pitches.
When the musicians in the Pear Garden adjust the pitches,
They are only aware of secular and foreign music, not old music.
It has long been understood that sonorous stones are made of stones from the River Si,
The sound they emit enhances human moral perception.
If sonorous stones from Huayuan are performed in a ceremony for the Emperor,
He will forget his ministers defending the frontiers.
As a result, foreign invaders gather their strength,
And our military officials retreat from their positions.
Now we understand music should have the same influence as politics,
How can we just listen to grandiose sound?
In an age when trained performers of sonorous stones disappear forever,

Ordinary young people from Changan are recruited to replace them.
Sonorous stones from Huayuan and sonorous stones from the River Si,
No doubt a discerning person can make a correct distinction.

(Quan tangshi 4691-92)

Although Bai Juyi may be criticized for being too naive in putting the blame for An Lushan's rebellion on the failure to use the right kind of sonorous stones in ceremonial music, the Tang dynasty was on the decline in all aspects, particularly in political and military might, after the death of Emperor Xuánzong in 756. Each of the successive Emperors had to face constant challenges to his authority to rule and the ability to protect territorial integrity (Twitchett 1973:9).

The rapid shrinking of music institutions after the reign of Emperor Xuánzong was in step with the substantial loss of territory during 762-859, covering the periods of Daizong, Dezong, Wenzong, Wuzong and Xuanzong. The number of musicians was to decrease from thirty thousand during the peak of Xuánzong's reign (712-56) to five thousand (Kishibe 1973:36). Such a dramatic reduction in manpower did little to help the promotion of Confucian values in music. In spite of the enthusiasm of Dezong (r.780-805) in instituting rites according to the practice of Xuánzong, old style ceremonial music had virtually disappeared by 866 (Picken 1969:77).

If music really has such an important impact on the well-being of a state, one would expect a rapid downfall after the total decline of ceremonial music. This simple statement, defined in the Yueji and applicable to all Chinese dynasties, has some logic in it. The rebellion of Huang Chao from 874 to 884 was serious enough to force the Emperor to leave his capital. The Tang was in turmoil until it was finally divided into local regimes in 907.

If one has to assess the contribution of the Tang dynasty to the traditional type of ceremonial music, it is an era of disappointment, in spite of its achievement in territorial expansion, trade, religious tolerance, poetry and entertainment music. It even compares to the Sui dynasty or indeed the Period of Disunity very poorly, as

there were significant contributions to the theory of pitches in the two earlier periods. The early Tang rulers did not even encourage their music officials to investigate the measurement of pitches, the first step to establish a Confucian musical system, a sign of half-hearted commitment to continuing the Confucian tradition of valuing music as a means of state control.

On the other hand, the Tang must be allowed some credit for the part it played in instituting ceremonial music according to Confucian classics, particularly the ritual texts. After all, this is the period when the three most authoritative ritual sub-commentaries, the Zhouli zhengyi [True Interpretation of the Rites of Zhou], the Yili zhengyi [True Interpretation of the Book of Etiquette and Ceremonial] and Liji zhengyi [True Interpretation of the Book of Rites] were written. Such a textbook application of Confucian musical ideas was only possible in an age when there was little active debate on the doctrine. When Emperor Taizong instituted ceremonial music, he closely followed the Zhouli, the only canon containing a practical outline for the performance of music in heavenly, earthly and human sacrifices. On the other hand, such a continuous lack of vitality in Confucian thinking, caused by the unenthusiastic attitude of the state, led to further downgrading of music as a controlling means. By 819, Han Yu (768-824) had to concentrate on the attack of Buddhism in order to draw official attention to the decline in Confucianism. By then, the doctrine had lost its chance to develop as a strong political force. It had to undergo complete re-assessment in order to resume its once powerful role.

Notes

- ¹ For the restrictions imposed on Buddhism, see Tonami 1988:27-47.

Chapter 4 The Song Dynasty (960-1279): Confucianism Revitalized

The Song dynasty has been called the period of the Chinese Renaissance (Gernet 1982:288), in spite of its diminished Empire and the constant military threats from neighbouring foreign powers. The much-discussed advances in science and technology were largely the results of a new approach to the assessment of the relationship between man and the universe, based on a re-interpretation of the Confucian classics, a philosophical approach developed from the anti-Buddhist movement of Han Yu in 819. Such a re-vitalization of classical texts was an important step in safe-guarding indigenous culture from the intimidation of the Khitans, the Jurchens and the Mongolians (Tu 1990:128). These activities were not possible without a more liberal attitude taken by an increasing number of literati, partly owing to the advance in printing technology, from the less efficient woodblock printing at the beginning of the dynasty to the invention of movable character type by Bi Sheng (? - c.1051) in the 1040s, a technology to be further developed by the Koreans in the fifteenth century (Loewe 1990:182-83).

The Song dynasty also saw the official endorsement of the Thirteen Classics, the addition of the Daxue (The Great Learning), the Lunyu (Confucian Analects), Mengzi (The Writings of Mencius) and Zhongyong (The Doctrine of the Mean) to the Nine Classics in the Tang. Such an expansion can be seen as a liberal move, owing to the inclusion of two chapters extracted from the Liji (Book of Rites), widening the definition of the classic. The increased opportunity for education and the development of the examination system made classical studies a real prospect for many. It is therefore not surprising that Song classical scholars such as Hu Yuan (993-1059), Sun Fu (992-1057), Fan Zhongyan (989-1052), Wang Anshi (1021-86), Ouyang Xiu (1007-72), Su Shi (1036-1101) and Sima Guang (1018-86) had a lasting influence on Confucian scholarship and writing style.

The most important legacy of the Song dynasty is perhaps the re-definition of Confucian learning based on the doctrine of the way (dao), a tradition built up from the eleventh century, involving scholars such as Zhou Dunyi (1017-73), Shao Yong (1011-77), Zhang Zai (1020-77), Cheng Hao (1032-85), Cheng Yi (1033-1107), and culminating in Zhu Xi (1130-1200).

Against this background of free expression, there was renewed interest in the promotion of yayue, owing to its symbolic significance in the establishment of the authority to rule, and the association of its proper application with successful government. Confucian scholars resented the demise of the ancient perfect tradition of music, characterized by its peaceful quality, and the tremendous influence of licentious contemporary entertainment music, a legacy of the extravagant court musical tradition of the Tang. There was a belief that performance of yayue would lead to the achievement of harmony with heaven and earth, and the same amongst spirits, human beings and myriad things.

During the Northern Song dynasty (960-1127) alone, there were constant debates on what was the correct musical system, especially on the establishment of correct pitches and the number of bells and sonorous stones to be installed in a frame for the bianzhong or bianqing. The pitches were altered six times during this period (Pian 1967:1). More often than not, scholar-officials made use of the ritual texts to justify their theories, and frequently their arguments were merely quasi-scientific.

*Northern Song Dynasty:
Early Effort in Formulating an Ideal Performance Tradition*

The first Song Emperor, Taizu (r.960-76), found the music at his court too high only six years after he ascended the throne (Song huiyao 1.280). Incorrect pitch is not acceptable in most classics, including the ritual texts (Liji 39.2a). After thorough discussion on the matter of pitches with his official He Xian, he discovered the rule, handed down from the preceding Later Zhou music official Wang Pu, by

which the pitches were derived, was four fen (0.4 inch) shorter than the old stone rule accepted by the Emperor (Song huiyao 1.280). This is roughly one step (semi-tone) too high, from his point of view. As a result, He Xian was ordered to construct, in the ancient manner, a nine-inch huangzhong pitch-pipe, based on the old stone rule suggested by the Emperor, and from it, the other pitches were derived (Song huiyao 1.280). The notion of antiquity is a useful means to give the exercise some credibility, although it is not shared by some scholars in the Song dynasty.

While the arguments were focused on the setting up of correct pitches, other aspects of ceremonial music were apparently not debated. During the reign of Emperor Zhenzong (r.998-1023), senior official Ai Zhongru noticed all sacrificial music was in the modes derived from the gong degree fixed to the pitch huangzhong, therefore not changing the modes monthly (Wenxian tongkao 130.1157). This is an obvious reference to the chapter Yueling (Monthly Commandments) in the Liji (Book of Rites), which associates a pitch with a particular month. Ai Zhongru had clearly broadened his interpretation of the classic to include the transposition of modes. A junior official Li Zong'e was ordered to make the necessary adjustments, resulting in the suggestion of the use of eighty-four modes (Wenxian tongkao 130.1157). This is an application of all twelve fundamental pitches to each degree of the heptatonic mode.

Active Debates During the Reign of Emperor Renzong (1023-64)

Li Zhao's Restriction to Twelve Pitches

During the reign of Emperor Renzong (r.1023-64), there were active debates concerning different aspects of music, largely owing to the interest of the Emperor in the subject. Jealousy amongst different camps of officials at the court had certainly some effect on the frequency and the heat of the arguments, a phenomenon not only found in this dynasty.

In 1035, the Emperor discovered the music provided by his Ritual Department was not harmonious, and Zhao Yansu, the minister in charge of rites, ordered officials Song Qi and Li Zhao to inspect the pitches of the court instruments (Wenxian tongkao 130.1157). This is an obvious way to check whether court music was performed with the correct pitches. Li Zhao, based on the measurements of the instruments, discovered the tuning, derived from the idea of the Later Zhou theorist Wang Pu, was five pitches higher than in his perception of ancient music, the analogy being the sounding of zhonglu when huangzhong was played, and yize when jiazhong was played (Wenxian tongkao 130.1157). His criticism was therefore based on the vague notion of antique practices. The Song huiyao (State Regulations of the Song Dynasty) gives a more detailed account on this matter, pointing out that the discrepancies in pitches had violated the sequence of the seasons, causing winter to be replaced by summer, and autumn by spring (1.281). This is, again, based on the idea of the Yueling (Monthly Commandments) in the Liji, presented in a manner similar to Ai Zhongru during the reign of Zhenzong. Li Zhao, apparently, suggested making an inch of the official rule twelve millet grains long, instead of the original ten (Song huiyao 1.281). One would have expected Li Zhao to lower the pitches by five steps, but he took a less drastic measure, lowering them by only three steps (Songshi 126.2937). It has been pointed out that his original intention was to lower the pitches by four steps (Yang 1952:285). In other words, the new pitches adopted were two steps lower than those suggested by He Xian during the reign of Taizu. Li Zhao had obviously found it more worthwhile to challenge Wang Pu's pitch system, as He Xian's ideas were less established.

Li Zhao had apparently composed music based on the new pitch system. On the other hand, the singers at the Ritual Department found it too low for them. They had to bribe the makers of the bells to make the pitches a little higher, which was not detected by Li Zhao (Wenxian tongkao 130.1158). It is, like the incident of He Tuo



in the Sui dynasty, another example of the conflict between ideal and reality, especially concerning something which is difficult to detect visually and perhaps aurally. Even if there were means to monitor the shapes and sizes of the instruments, it would have been quite easy to introduce deviations in pitches by altering the proportion of different metals in the process of casting.

Li Zhao was one of the few theorists in the Song dynasty to question the then established practice of fixing sixteen bells or sixteen sonorous stones to a frame of bianzhong or bianqing, principal pitched percussion instruments in ceremonial music (Songshi 126.2949). Twelve of these were pitches at the middle range (zhongsheng), from huangzhong to yingzhong, while the rest were the higher octave pitches of huangzhong, dalü, taicou and jiazhong, the next pitches up. Based on the idea of twelve different pitches described in the Zhouli and other classics, Li Zhao thought there was a need to limit the number of bells and sonorous stones to the same number (Song huiyao 1.285). He held the view that ceremonial music should be confined to the twelve pitches of the middle range, ignoring the fact that there had been different ways of fixing these instruments since the Han dynasty, varying from fourteen, sixteen, nineteen, twenty-one to twenty-four bells or sonorous stones for a frame (Song huiyao 1.282-83). He went on to quote a few passages from ancient sources, including the Zhouli, Zuozhuan and Guoyu, to support his theory (Song huiyao 1.284). In addition, he pointed out that only foreign instruments such as bili (Kuchean double-reed instrument) and fangxiang (iron slabs originally for dining music), popular in the Tang dynasty, had to accommodate the four extra pitches in the high register (Song huiyao 1.283). In other words, he thought ceremonial music should be performed with the minimum number of pitches, which was twelve. His moral objections to the use of pitches other than the twelve he suggested are more directly expressed in the Songshi (Song History): "Music is complete with twelve pitches. The four higher pitches are only used in the music for the states of Zheng

and Wei... Their removal means the removal of improper music of extreme emotion." (Songshi 126.1950) This statement sounds very authoritative, even though it is not really logical, owing to the association of the four extra pitches with the music of the degenerate states, the type of music condemned by the Liji (37.7a) and other classics. Li Zhao, by restricting the pitches to twelve, had unwittingly labelled most previous musical practices as incorrect, putting his own idea of equating antiquity with excellence into doubt.

*Music Theory of Feng Yuan and Song Qi:
Their Arguments for Sixteen Pitches*

It was on this basis that Li Zhao's theory was contested, rather than on the accuracy of pitches. Officials Feng Yuan and Song Qi did not agree with his interpretation of the classics, and with the fact that Li Zhao drew from these texts the idea of twelve pitches being the utmost limit of the range in performing ceremonial music. Feng and Song suggested the previous practice of installing sixteen bells and sonorous stones to a frame be restored. They argued that the four extra consecutive pitches, from huangzhong up, were essential if music were to be performed in the gong modes of yize, nanlu, wuyi and yingzhong (Songshi 126.2950). Their objection was a moral one, entirely based on the relationship between the five degrees and the five hierarchies of the state defined in the section Yueji of the Liji:

For the five degrees: gong represents the Emperor, shang the ministers, jue the people, zhi affairs and yu matter. If each of these does not intrude on the others, things are in order. If, on the other hand, the order is not maintained, it will lead to chaos. This is an everlasting truth. In music, the lower the pitch, the more it is to be respected. The higher the pitch, the more trivial the thing it represents. Triviality should not mix with the respected. This is a rule applicable to the past as well as to the present.

(Songshi 126.2950)

Feng and Song ranked the five degrees according to their pitch levels. According to them, the gong degree represents the Emperor, and therefore should ideally be the lowest pitch in a piece of music. They saw the inclusion of the four

extra pitches in the higher register as an essential means to maintain the gong degree in a satisfactory low position: "If only twelve bells are allowed in performing music, and if the gong modes at the pitches of yize and three following are used, the result is the intrusion on the Emperor by the ministers and the people. This destruction of the order of the state is the result of improper music, and should not be tolerated." (Songshi 126.2950)

The "intrusion", of course, refers to the need to involve pitches lower than the symbolic gong degree. For example, when the gong is fixed to yize, the degrees of jue, zhi and yu have to be in the higher octave if these pitches are to be kept above the gong degree. This is not possible if there are only twelve pitches available. The two officials were particularly worried about how the jue degree was treated. Without the four extra pitches, the jue degree (huangzhong an octave higher) had to be transposed an octave lower, therefore lower than the gong degree. As they believed the jue degree represented the people, making it lower than the gong, the symbol of the Emperor, would be tantamount to allowing the people to have too much respect. The Song huiyao (State Regulations of the Song Dynasty) illustrates the problem with another example, where, in the case of the gong degree fixed to wuyi, the shang and jue degrees would have to be transposed below the pitch of the gong, causing more chaos (1.286).

Feng and Song were not too worried about the treatment of the zhi and yu degrees, as there were no human factors involved. These degrees could therefore be transposed below the gong, without causing any moral conflict (Songshi 126.2950). It can be argued that the two officials would have to extend the range of the bells and sonorous stones to more than sixteen pieces in a frame, if they had to find a moral reason to avoid putting these degrees below the gong.

The discussion of musical matters went on. In the following year, Feng and Song noticed the drums in ritual music were neither complete nor performed in the

right way. They mentioned particularly the leigu, linggu, lugu, and their complementary hand-drums, leitao, lingtao and lutaotao (Song huiyao 1.292). They must have been obsessed with the idea of the Zhouli, as these instruments are not mentioned in other classics. From the original scanty information, the officials worked out how these drums were to be performed:

The eight-side leigu had been used in the previous dynasties in receiving spirits, but there is no way to tell how the drum should be performed... One musician ought to play the gu, and should be led by another musician holding the tao with the left hand. When the six episodes of music are performed to receive the heavenly spirits at the Round Hill, each of the eight sides of the drum is beaten three times, and the dancer moves three steps towards the left. The number "three" is significant owing to its masculine nature. This process is repeated, until the sixth episode is over. The linggu and lugu are performed in a similar manner.

(Song huiyao 1.292)

Although these drums are mentioned in the passage concerning the heavenly, earthly and human sacrifices, there is no way, from the classic itself, to infer what these instruments look like or how they are performed. The acceptance of the leigu as an eight-sided drum shows Feng and Song favoured the more recent Tang interpretation rather than that by the famous Han scholar Zheng Xuan (127-200 A.D.), who defined the leigu and leitao as drums having six sides, the linggu and lingtao as drums having four sides, and lugu and lutaotao as drums having two sides (Zhouli 22.13b-14a). He, however, did not give any hints how these were to be performed. The question concerning performance of these instruments was also ignored by the Tang scholar Jia Gongyan (fl.640) when he wrote the sub-commentaries for the classic. Feng Yuan and Song Qi are therefore more practical in approach, foreshadowing the kind of spirit of the Song dynasty demonstrated in the writings of the neo-Confucianists.

The two officials also took the idea of the jingu, a large drum, from the section guren (Officials of the Drum) in the Zhouli (12.16b). They suggested the inclusion of these notional drums in ceremonial music, which was agreed by the Emperor, who

ordered the instruments to be made according to the "ancient way as described in the Zhouli." (Song huiyao 1.293) The classic, of course, does not give any hints on the construction of these drums. If the jingu had to be constructed, it would have little resemblance to the instrument described in the Zhouli.

Feng and Song also suggested a jiangu, a drum on a stand, to be placed at each of the four corners of the performance area (Song huiyao 1.292). Such kind of drum is mentioned in the section on the Great Archery Ceremony in the Yili (7.6a). Again, the standard interpretation of the instrument is given by Zheng Xuan, who thought the character jian referred to a stand which supported a drum with a vertical stick going through its body (Yili 7.6a). It is clear that the Yili was chosen to supplement any ideas missing in the Zhouli, although the nature of the ceremony, and possibly the music, described in each classic, is very different. In the minds of the two officials, the authority of the two classics precluded all doubts which might have arisen owing to difficulties in compatibility.

Ruan Yi and Hu Yuan Challenging Li Zhao's Theory

Debates on the proper ways of setting up ceremonial music went on, despite the seemingly convincing statements from Feng and Song. Since Emperor Renzong was fully determined to settle the different opinions, he was prepared to involve more officials in the already heated discussions (Pian 1967:3). In 1036, Ruan Yi declared his own way of arriving at the correct pitches, using the Zhouli as an inspiration (Songshi 127.2959). His temporary removal from office had attracted more criticism than he deserved from his rivals (Songshi 127.2969).

A better source for Ruan Yi's idea on music is his book Huangyou xinyue tuji (Illustrations and Notes on the Newly Revised Music of the Huangyou Reign), written in partnership with Hu Yuan and presented to the Emperor in 1053. The Zhouli is used as an authority to present new ideas on pitches, shapes and dimensions of bells

and sonorous stones, and the number in each frame. The fact that the discussion of pitches is linked to the idea of twelve pitches in the middle range and four additional pitches in the higher octave suggests Ruan and Hu were aiming at undermining the system proposed by Li Zhao eighteen years earlier, as suggested later by the editors of the Siku quanshu (Complete Collection of the Four Treasuries of Literature) in the late eighteenth century (Siku quanshu zongmu 1.320).

Ruan Yi claimed his way of fixing the pitches was based on the idea of the duties of the Grand Director of Music in the Zhouli, where the twelve pitches were divided into six masculine and six feminine (Huangyou xinyue tuji 1.4b). The classic itself, of course, does not give the exact measurements of the pitch-pipes. Ruan decided to adopt the idea of fixing the pitch of the huangzhong to a nine-inch pipe, and to derive the other eleven pitches based on this fundamental pitch, using the Method of Triple Division, that is, the alternate adding and subtracting a third of the length of the original pipe, an idea shared by the Han scholars Zheng Xuan and Ban Gu (Huangyou xinyue tuji 1.4b-6a). When it came to the illustrations of the pitch-pipes, Ruan was very careful not to stop at the twelfth pipe, but went on to the sixteenth. By implication, Ruan suggested the four extra pitches, that is, huangzhong, dalü, taicou and jiazhong in the higher octave, were as important as the twelve fundamental pitches. Doing this, he must have had in mind the idea of keeping the gong degree lower than the shang and jue. This is in direct contrast to the restriction to twelve bells and sonorous stones in the musical system of Li Zhao. In each case, he included the diameter of the pitch-pipe, which varied from 0.346 to 0.25 inches, showing his concern for the possible deviations if all the pitch-pipes had the same diameter, a far cry from the basic information of six masculine and six feminine pitches in the Zhouli (Huangyou xinyue tuji 1.6b-7a).

The Zhouli even has a part to play in the determination of the standard rule for the pitch-pipes. Ruan claimed to have followed the essence of the passage

concerning the minister of jade wares, the dianrui, in the process (Huangyou xinyue tuji 1.8a). In reality, it has more to do with Ban Gu's Hanshu (History of the Han Dynasty) than the ritual classic.² His way was based on taking the width of a medium-sized millet grain from Mount Yangtou as one tenth of an inch. The standard rule had ten inches. Ruan calculated that if the huangzhong pipe were measured nine inches in his proposed rule, it would be one step lower than the existing pitches. In other words, Ruan had worked out a new system of pitches close to the idea of the official He Xian during the reign of the first Song Emperor Taizu, who suggested lowering the pitches of Wang Pu by one step (Huangyou xinyue tuji 1.9b).

Ruan devoted quite a large proportion of his treatise to the discussion of court musical instruments, notably the bells and sonorous stones. Not only was the Zhouli text relevant to the subject taken seriously, but also its commentaries and sub-commentaries, written in the Han and Tang dynasties by the scholars Zheng Xuan and Jia Gongyan respectively, were treated with the same respect. On this basis, Ruan pointed out that there were seven deficiencies in the large bell, the bozhong, and three deficiencies in the solitary sonorous stone, the teqing, of the Ritual Department. Apart from the criticism of the incorrect tuning of the bells, Ruan was also worried about the fine detail concerning the structure of the bell. It did not take too much imagination to solve these problems. The huangzhong was re-tuned according to the new standard rule, and bells with pitches lower than this fundamental pitch were eliminated, so as to avoid the difficulty of having any bells which might interfere with the dignity of the gong degree, a symbol of the Emperor, when the gong is fixed to the huangzhong. This theory is remarkably similar to that of Feng Yuan and Song Qi, which equated dignity with pitch. Ruan worked out a perfect bozhong based on the hints from the Zhouli text, its commentaries and sub-commentaries. Likewise,

new ways of constructing the solitary sonorous stone, the teqing, were suggested (Huangyou xinyue tuji 1.2a-3a).

Ruan was in favour of hanging sixteen bells and sonorous stones on each frame, echoing the idea of Feng Yuan and Song Qi. The ritual classics were a useful source of inspiration. He quoted, in his support, Zheng Xuan's commentary on the passage concerning the duties of sub-assistant, Xiaoxu, in the Zhouli (Huangyou xinyue tuji 2.6b). To ensure his ideas were not misinterpreted, he provided diagrams of the bianzhong and bianqing, with pitch names duly labelled (Huangyou xinyue tuji 2.7b-8a, 2.9b-10a). Ruan's support for the use of sixteen pieces for each frame suggests his upholding of the rule for not allowing the gong degree to be higher than the shang and jue in pitch, an interpretation of performance practice based on the definition of the moral roles of the five degrees in the Yueji. This very idea is, of course, in conflict with that of Li Zhao.

The debates concerning pitches and court instruments continued, even though Ruan Yi gained some support from Emperor Renzong (Pian 1967:3). Seven months later, Ruan Yi's proposal for a new musical system was criticized by the official Ding Du for rendering a false way of measuring pitches based on the Zhouli (Songshi 127.2959). Of course, Ding Du did not mean to criticize the classic; he only complained about Ruan's failure to interpret it properly.

The fact that Li Zhao was a common target for attack is further confirmed by the comment made by Song Shou in 1038, criticizing Li's music for being three pitches lower than the music at the beginning of the Song dynasty. Song thought Li had no historical basis for his theory, and suggested that the best outcome of court music was the adoption of the system of the early Song, that is, the one based on the theory of He Xian (Songshi 127.2961). Song Shou gives an impression of arguing for the sake of arguing, and certainly added nothing new to the debates concerning music.

Ruan Yi's musical ideas, especially the advocacy of the use of four higher octave pitches in addition to the basic twelve, seemed to have the continued support of officials at court. In 1040, Wang Xiaochen reported to the Emperor on the assessment of Ruan Yi's sacrificial music. Wang pointed out that the number of bells and sonorous stones on a frame had been different in different dynasties, ranging from sixteen to twenty-four. He was very determined that both the bianzhong and the bianqing should include a basic octave and some pitches in the higher octave. He believed the system adopted by the Ritual Department of the Song court, based on Ruan's idea of sixteen pitches, was very appropriate. His explanation of the theory was, like some of his predecessors, based on the idea of the section Yueji in the ritual classic Liji, making the gong degree below the shang and jue degrees no matter which pitch the gong was fixed to, so as to maintain the dignity of the Emperor (Songshi 127.2963).

In spite of rigid adherence to part of the Liji, Wang showed a typical practical mentality, characteristic of the later Song dynasty, when he dealt with pitched instruments besides the bells and sonorous stones. He thought there was no point in making any alterations to existing instruments merely for the sake of matching the range of the bianzhong and bianqing. He suggested using instruments to double the sound of the bianzhong and bianqing only when their existing ranges permitted. Somehow, he thought the four extra pitches should only apply to instruments, and not to the human voice. On this basis, he criticized Ruan Yi's music, which included pitches in the higher octave for voice, and equated it with the decadent music of the states of Zheng and Wei described in the Yueji (Songshi 127.2964).

In 1052, officials had the opportunity to listen to the performance of music involving new bozhong and teqing. They were particularly interested in the measurements and weights of these instruments. The twelve bells and sonorous stones were of different sizes, and were apparently made according to the somewhat

vague description in the final part of the Zhouli, correlating pitch measurements with physical measurements. Some officials noticed there was something fundamentally wrong. The bell huangzhong weighed 106 jīn compared to the bell of the highest pitch, yingzhong, which weighed 148 jīn. At the same time, the sonorous stone huangzhong was 2.1 inches thick, compared with the sonorous stone yingzhong, which was 3.5 inches thick (Songshi 127.2967-68). These instruments, of diminishing sizes from huangzhong to yingzhong, caused confusion owing to their gradual increase in weight and thickness, in spite of the firm scientific basis.

In the following year, the matter was taken up. The official Wang Zhu disagreed with the theory of relating pitches to measurements. Using the Yueji as a foundation, he pointed out that the most respectable combination of huangzhong as the gong degree merely referred to its pitch, not to its measurement. He argued that it was illogical to expect the physical measurements of these instruments to be strictly in accordance with the pitch measurements. He therefore advocated one standard set of measurements for all bozhong and another set for all teqing, based on the huangzhong pitch (Songshi 127.2968-69).

Wang Zhu's suggestion caused an immediate hostile response from the scholar-official Wang Gongchen from the Grand Secretariat, who held a more orthodox view concerning the appearance of these court instruments. His understanding of huangzhong was "a pitch-pipe of nine inches long which emitted masculine force and related to the element of earth, and its gong mode represented the Emperor, and was second to none." (Songshi 127.2969) The moral definition of the gong degree is a reference to the Yueji, while the measurement of a nine-inch huangzhong is derived from Ban Gu's Hanshu. From this, he concluded that the huangzhong bells and sonorous stones should be physically bigger than instruments of other pitches in the same family, so that the image of the Emperor, represented by huangzhong, was not undermined. Ruan Yi and Hu Yuan were also drawn into the

debate. They were criticized by Wang Gongchen because they supported Wang Zhu's idea of standardizing the sizes of all bells and sonorous stones, using the huangzhong instruments as standards. The argument gradually shifted from the technicalities of making court instruments to the moral significance of their appearance. A natural consequence would therefore be the involvement of officials who were less informed in music. In fact, Li Dui's contribution was his criticism of the idea of Wang Zhu and Ruan Yi, partly based on the fact that the last had been prosecuted before. His suggestion that musicians should make use of old and new bells, notwithstanding the fundamental pitch huangzhong was one pitch apart, was hardly practical (Songshi 127.2969).

*Putting Theory Into Practice:
Yang Jie, Liu Ji and Fan Zhen*

The next serious discussion of pitches took place after Emperor Shenzong ascended the throne in 1067. Yang Jie, an official from the Ritual Department, ordered Fan Zhen and Liu Ji to review the pitches. Yang later agreed with Liu that the standard pitches should be two steps lower than those at the beginning of the Song dynasty, which had been devised by Wang Pu (Songshi 126.2937-38).

In 1080, Yang Jie pointed out that there were seven deficiencies in ceremonial music (Songshi 128.2981-83). Amongst them, the most serious were the failure to set a correct standard for pitches and the inability to determine a proper range for the bianzhong, bianqing and xiao. These were the bases without which the sophisticated application of modes and other aspects of performance practice would have become meaningless.

In order to put forward a strong case for the proposal of a new set of pitches, Yang argued that the existing system could only produce decadent music found in the ancient state of Zheng, the kind of music discussed at great length in the Yueji. He

put the blame on the lack of interest and knowledge on the matter of pitches amongst scholars and officials (Songshi 128.2983).

The Emperor ordered Fan Zhen and Liu Ji to scrutinize Yang Jie's proposal. They agreed with Yang that the correct way was to lower the pitches of Wang Pu at the beginning of the Song dynasty by two steps. Yang thought the new pitches would be like those used by Li Zhao's musicians forty-five years before. Although there was hardly any mathematical basis in the proposal, Yang emphasized one very important point in ceremonial music: "The ancient sages composed music to accommodate harmonious sound, so as to guide harmonic forces. Pitches cannot be too high, nor can they be too low. They have to be in harmony with the eight sources of instrumental sound, and they have to allow singers to perform without strain." (Songshi 128.2984)

These are precisely the qualities of good music which are emphasized in the Yueji. In the ritual classic, "harmonious sound" refers to ceremonial music which is in harmony with heaven and earth (Liji 37.14a). The "harmonic forces" can be interpreted as the means to enable the Emperor to rule. Unlike the Liji, Yang Jie stopped short of pointing out explicitly ceremonial music as a tool for governing the people. His suggestion of an ideal tuning system based on pitches which were neither too high nor too low, which would eventually lead to harmony with instruments and voices, was in line with the spirit of the Yueji. Yang's method of arriving at the correct pitches was not scientific, but had to rely on having an acute sense of pitches. In fact, he had the ability to single out a wrongly tuned bell amongst those which were correctly tuned, much to the surprise of the court musicians (Wenxian tongkao 130.1158).

Yang Jie's reference to the Yueji was more direct in his discussion of the construction of modes and their transpositions. The five basic degrees, gong, shang,

jue, zhi and yu were extended, based on their moral associations, to accommodate two extra degrees of the heptatonic mode, the biangong and bianzhi:

Gong represents the Emperor, shang the ministers, jue the people, zhi affairs and yu matter. Since the Emperor commands all the orders (affairs) of the state, the gong he represents generates zhi. Since the orders (affairs) are executed by the ministers, zhi generates shang. The Emperor and his ministers have to work for the state wholeheartedly before myriad matters are in order, without which the people cannot live. Therefore shang generates yu and yu generates jue. Since the ministers have regular duties, the people have regular work, and matter has regular shapes, any great changes to them will lead to imbalance. Therefore, shang, jue and yu have no bian degrees. The Emperor looks after all aspects of the state, and it is therefore not desirable that he remain in one position. State affairs are all related, and cannot be fixed to one position. As a result, gong and zhi have bian degrees.

(Songshi 128.2983-84)

While the heptatonic mode was by no means the invention of Yang Jie, he was certainly one of the first to justify its existence by extrapolating the definition of each degree in the pentatonic mode. This was done by first working out the interrelationship between the five degrees, so that the moral definition of each degree could be accommodated in the mathematical context of the Method of Triple Division. It is therefore natural to expect him to present the five degrees in the order of gong, zhi, shang, yu and jue, based on the relationship of a fifth, instead of the more common ascending order of gong, shang, jue, zhi and yu. The mathematical basis for the degrees biangong and bianzhi is weaker, as he made no attempt to present these in a logical order.

With the pitches and modes settled, it is natural to expect Yang Jie to discuss issues related to the performance of ceremonial music. He was particularly concerned with the number of bells and sonorous stones suspended in each frame of the bianzhong and bianqing being limited to twelve. Like many of his predecessors, he blamed Li Zhao for initiating such an idea. Yang, however, had a different terminology for the twelve basic pitches and the four extra higher pitches added to these instruments:

The first twelve are the fundamental pitches (bensheng), while the following four are pitches responding to them (yingsheng). The bensheng, heavy and large, represent the Emperor who has the role of the father, while the responding pitches (yingsheng), light and clear, represent the ministers who have the role of the sons. Therefore the four extra pitches are called clear pitches (qingsheng) or pitches of the sons (zisheng)... It is desirable for the bianzhong, bianqing and xiao to have the four zisheng so that they can be in harmony with the eight sources of instrumental sound.

(Songshi 128.2982)

Yang Jie's approach to promote the idea of the sixteen piece bianzhong or bianqing was hardly technical. He would have, in any case, found it quite unnecessary to repeat what Ruan Yi and others had said before. His idea of classifying the twelve basic pitches as a representation of the Emperor was an oversimplification, yet a clear echo of the relationship between the five degrees and the hierarchies of the state expressed in the Yueji. He obviously agreed with his Song predecessors that the gong, the symbol of the Emperor, should always be kept below the shang and jue degrees so as to maintain its dignity. As a result, he had to be concerned with the modes when the gong degree was fixed to the pitches yize, nanlu, wuyi and yingzhong, if there were only twelve pieces in the bianzhong and bianqing. It was understood that modes with the gong degree fixed to the other pitches would result in the gong being positioned below the shang and jue degrees, maintaining a fine balance between the Emperor, ministers and people.

Yang Jie had an economical way of making his own sets of sixteen bells and sonorous stones with a minimum of new resources. Since he had adopted the pitches devised by Li Zhao, the easiest way would be to increase the number of bells and sonorous stones of Li's instruments, which were limited to twelve in a frame. As Li Zhao's instruments were two pitches below those of Wang Pu, Yang Jie suggested Wang's instruments tuned to wuyi, yingzhong, higher octave huangzhong and higher octave dalü could be used to replace the four higher pitches, namely huangzhong, dalü, taicou and jiazhong, in the new system (Songshi 128.2984). Yang Jie's combination of instruments based on two different systems of pitches might appear

plausible, but he had certainly ignored the fact that pitches generated by the Method of Triple Division could not be combined that way, at least mathematically. Since the fundamental pitch huangzhong in Wang Pu's system was two steps above that of Li Zhao, the four extra higher pitches adopted from the former system would have been slightly lower than the four added pitches in Li Zhao's system.

The choice of modes for ceremonial music performed during the sacrificial rites for heaven, earth and human spirits was of great concern to music officials of the time. Before arriving at a new arrangement for the modes, Yang Ji's colleague Liu Ji challenged the existing Song practice of determining the modes, and how they were related to the relevant passage in the Zhouli:

The previous practice of the Song dynasty was, when three episodes of music were performed with the gong tuned to jiazhong, it was called "jiazhong is gong". When one episode was performed with the gong tuned to yize, it was called "huangzhong is jue". When two episodes were performed with the gong tuned to linzhong, it was called "taicou is zhi" and "guxian is yu". The passage Dasiyue (Grand Director of Music, from the Zhouli) says: "In the performance of ceremonial music, huanzhong is gong, huangzhong is jue, taicou is zhi and guxian is yu." Huanzhong is another name for jiazhong.

(Songshi 128.2984-85)

Liu Ji's intention was to show how his Song predecessors had misinterpreted the modes of heavenly sacrificial rite. The Zhouli juxtaposed the pitches huanzhong, huangzhong, taicou and guxian with the degree gong, jue, zhi and yu. There was little doubt that it was treated as a description of modes. While he could not have possibly dismissed the pitches mentioned in the classic, he was skilful in criticizing how they were interpreted. He obviously believed these pitches referred to the tuning of the gong degree, that is, the idea of jun (Cheung 1974:61-62). The term is used in the chapter Yueling (Monthly Commandments) of the Liji to describe the tuning of the qin, se, xiao and guan (Liji 16.2a-2b). He therefore had to work out the gong degree of each mode and to prove that of the three corresponding pitches, jiazhong, yize and linzhong, only the first was mentioned in the classic. His proposal involved a new application of all the pitches mentioned in the Zhouli passage:

When the gong of a seven-degree mode is tuned to jiazhong, and the music begins and ends with the gong degree, it is called huanzhong is gong. When the gong of a seven-degree mode is tuned to huangzhong, and the music begins and ends with the jue degree, it is called huangzhong is jue. When the gong degree of a seven-degree mode is tuned to taicou, and the music begins and ends with the zhi degree, it is called taicou is zhi. When the gong of a seven-degree mode is tuned to guxian, and the music begins and ends with the yu degree, it is called guxian is yu.

(Songshi 128.2985)

Liu Ji's interpretation of the modes had the advantage of emphasizing the importance of the gong degree by relating it to the pitches mentioned in the Zhouli passage (Provine 1989:280-81). This involved discrediting the existing practice of treating the pitches in the classic as the cadencing pitches in the modes of jue, zhi and yu, which had the connotations of people, affairs and matter. These elements of the state were believed to be under the authority of the Emperor, represented by the gong degree. Musically, apart from the sections performed in the gong mode, those in other modes would have new cadencing pitches.

Liu Ji's colleague Fan Zhen pointed out that essential instruments were absent in the Ritual Department. These included, he believed, the eight-sided drum leigu, the six-sided drum linggu and the four-sided drum lugu (Songshi 128.2986). These were, of course, instruments mentioned in the passage concerning modal prescriptions in the heavenly, earthly and human sacrificial rites in the Zhouli. Fan Zhen's understanding of these antique instruments was based on the Tang tradition rather than that of the Han, which, in the mind of a great Confucian scholar such as Zheng Xuan, would have treated the leigu as a drum with only six sides, the linggu four sides and the lugu two sides (Zhouli 22.13b-18a). Fan Zhen obviously did not bother to investigate the discrepancies in the technical features of the drums. If he had done so, one would have expected him to recommend the Han interpretation of the drums, owing to proximity in time to the period of the classic. One also has to bear in mind that these drums have less moral implications than pitches and modes, and are

therefore not the main focus of any serious discussion. A vague reference to the classic would have served the purpose of reinforcing Fan's authority on musical matters.

The partnership between Fan Zhen and Yang Jie came to an end after Zhezong (r.1085-1100) ascended the throne. Fan was responsible for lowering the pitches devised by Yang Jie by one step, but these were later rejected by the latter, who presumably was the winner in the debate (*Songshi* 126.2938). In fact, Fan also argued for the reduction of the number of bells and sonorous stones in the bianzhong and bianqing to twelve for each frame, contrary to Yang's suggestion of four additional higher pitches. Fan's theory was based on the association of the higher octave pitches with the music of the degenerating states of Zheng and Wei, a type of music condemned by classics such as the *Liji* (*Songshi* 128.2990). This resembled the idea of Li Zhao some fifty years before. Instead of echoing the significance of the four extra higher pitches based on the need to keep the gong below the shang and jue degrees, Yang contradicted Fan's idea on a historical basis. He pointed out that during the reign of Chengdi (r.33-7 B.C.) in the Han dynasty, sixteen sonorous stones, believed to be a set of bianqing, were found. He therefore believed that such a system had been in place since the period of ancient sage-emperors, and could be re-introduced to the Song court if Wang Pu's pitches were lowered to match the human voice (*Songshi* 128.2992). Yang's consideration for practical details matched the contemporary attitude of neo-Confucian scholars in the Song dynasty.

Wei Hanjin and the Dasheng Institute

The last Emperor of the Northern Song dynasty who had an interest in musical reform was Huizong, who reigned from 1100 to 1125. He was principally remembered for the establishment, in 1105, of the Dasheng Institute, a special organization for music and an off-shoot of the former Ritual Department. The

founding and administration of the Dasheng Institute was due largely to the effort of Wei Hanjin and others such as Liu Bing and Cai You. It employed 785 musicians and dancers in 1120, a number which excluded officials in charge of composition (Ling 1940:119). Such a size was very similar to the extravagant Music Office Yuefu established during the reign of Emperor Wudi (r.140-87 B.C.) of the Han dynasty, which commanded the service of 829 musicians by the time it was abolished in 7 B.C. (Loewe 1974:203).

Indeed, the leaders of the two musical establishments had a common quality: neither of them had held any important positions at court by the time they were given such influential positions. Li Yannian, the founder of the Yuefu, came from a family of folk musicians (Cheung 1974:66), while Wei Hanjin was classified as a criminal whose ideas on music had been rejected by the earlier Song Emperor Renzong (r.1022-63) (Ling 1940:105). A possible explanation of peculiar phenomena such as these could be the desire to introduce controversial ideas to the court and these had to be facilitated by someone outside the familiar circle of officials, if the conservative ideas of the existing establishment were to be eliminated completely.

The formation of the Dasheng Institute was signalled by a need to establish a correct system of pitches, and, as a result, a complete re-organization of the musical institution at court. In a letter to Emperor Huizong dated 1104, Wei Hanjin outlined his idiosyncratic theory of how the ancient sage Emperor Yu revived the system of pitches in the golden era of the legendary Emperors Fuxi, Nuwa and Huangdi, lost owing to the flooding of the Yellow River. Wei's idea was based on the relationship between the five degrees and the five hierarchies of the state defined in the Yueji:

Yu adopted the method of Huangdi, who established the pitches based on measurements of his body. The three sections of the middle finger of his left hand, making three inches, was called the "Emperor Finger". The pitch-pipe derived from it was that of the gong degree. The three sections of the ring finger, making another three units of measurement, was called the "Minister Finger". The pitch-pipe derived from it was that of the shang degree. The three sections of the little finger, making yet another three units of measurement, was called the "Matter Finger". The pitch-pipe derived from it

was that of the yu degree. The first finger, represented the people, and therefore the jue degree, while the thumb represented affairs, and therefore the zhi degree. The people and affairs did not need to have special ways of generating their pitch-pipes, because they were under the control of the Emperor and the ministers, and were maintained by matter. When the lengths of the middle, ring and little fingers were combined, the total measurement would be nine inches, which was the length of the huangzhong pitch-pipe. Once the huangzhong was fixed, it would generate the other pitches... I would like to adopt the idea of the sage emperors by taking the measurements of the middle, ring and little fingers of Your Majesty to cast nine tripods, a big bell representing the Emperor, four bells in the higher range and twenty-four bells, each representing a half-month period. From these, string and wind instruments could be made. This is the way to construct music of this generation.

(Song huiyao 1.341-42)

Wai Hanjin had therefore chosen to ignore the established practice of determining standard pitches through the painstaking process of searching for a standard rule, which might, in the case of Zhang Cang and Ban Gu in the Han dynasty, involve the alignment of millet grains, and in the case of the more recent theorist Wang Pu, the reliance on the standard of an antique rule. Wei's detailed account of how Emperor Yu made use of his body parts to determine the huangzhong was merely intended to be an example to show how a sage-emperor could arrive at the standard pitches almost effortlessly; there was no implication that these exact measurements should be re-established. This is not unlike the thinking of most Song neo-Confucianists, who would be ready to apply an antique theory to solve contemporary practical problems. His comparison of Emperor Huizong to Emperor Yu was obviously flattery, yet it was a compliment that it would be difficult for anyone to reject.

It is possible to argue that Wei's reliance on the lengths of the Emperor's fingers was a reflection of his Daoist background (Ling 1940:105). A fundamental doctrine of Daoism is the superiority of things which belong to nature over things which are artificial. Nothing is more natural than the fingers of a human being, even more so those of an Emperor, who is supposed to have a mandate from heaven, a belief initiated in the early part of the Han dynasty. The Daoists also believe that

man's competition with nature is futile, which, of course, applies to any deliberate attempt to set up an artificial standard for rites and music, and in this case, a standard pitch-pipe.

Other than this, Wei Hanjin's logic in setting up standard pitches was thoroughly Confucian. The relationship between the five degrees and the five social orders of the state in the Yueji was further explored in a tangible manner: each of the fingers of the left hand represented a degree and a position in the state. There was also a mathematical value, because the sum of the three sections of the middle, ring and little fingers was treated as nine units that an ideal huangzhong pitch-pipe should measure. Wei's fundamental pitch huangzhong was 298.7 Hz (d¹⁺), marginally higher than that proposed by Fan Zhen in 1083, which measured 288.4 Hz (d¹⁻) (Yang 1952:288-89).

Wei Hanjin's theory on pitches had such an overwhelming influence on Emperor Huizong that when the Dasheng Institute was set up in the following year, the latter genuinely believed that he had followed the guidelines of the legendary Emperors Yao and Shun in setting a standard for ceremonial music for the state (Ling 1940:107).

There were, however, initial problems in the early establishment of the Dasheng Institute. In 1108, three years after the death of Wei Hanjin, the senior music official Liu Shen discovered there was no ceremonial music written in the zhi mode. He urged the Emperor to take the matter seriously because he believed the Song court was influenced by the element of fire and the degree zhi. He also claimed, in very vague terms, that without the zhi mode, the music of the Dasheng Institute would be too high and therefore against the strict standard of good music laid down by the section Dasiyue in the Zhouli and Confucius (Ling 1940:122).

One would have expected Liu to argue his case in more specific terms. A most obvious passage in the Zhouli to quote would be the one in the Dasiyue

concerning the modal prescriptions for heavenly, earthly and human sacrificial rites. If he had done so, his case would have been much stronger, because the passage clearly indicates that music for these rites involves the gong, jue, zhi and yu modes. In any case, the Emperor did not need much persuasion on the matter, and ordered officials of the Dasheng Institute to accept Liu Shen's idea of adding music written in the zhi mode. In fact, he went one step further to include music in the jue mode, which was apparently also missing (Ling 1940:109).

Information concerning instruments of the Dasheng Institute was recorded in Liu Bing's book entitled Dasheng yueshu (Treatise on Dasheng Music), dated 1109 or 1110, parts of which are recorded in the Songshi (Song History) (Provine 1988:124). Liu's concern for instruments was more general than most of his Song predecessors. He grouped them into eight categories according to the material they were made of, but did not go into the intricacies of the number of bells and sonorous stones in the bianzhong or bianqing. It is, however, clear from the previously quoted letter from Wei Hanjin to the Emperor in 1104 that Wei's bianzhong, and therefore his bianqing, had sixteen pieces owing to the deliberate attempt to cast four bells in the higher octave in the new pitch system. This is further confirmed in the Songshi's reference to Chen Yang, describing him as objecting to Wei's practice of using four higher pitches in derogatory terms (Songshi 128.2997). Presumably, both Liu and Wei had no objection to the then established Song theory of maintaining the gong below the shang and jue degrees when the gong was fixed to any of the twelve pitches.

The Zhouli had a part to play in determining the kinds of drums to be used in the music of the Dasheng Institute. The passage from the Dasiyue of the ritual classic was slightly extended to accommodate the reason why a particular drum was suited for a particular ceremony: "The leigu is used for heavenly sacrifices because, lei (thunder), heavenly sound, should be reserved for heaven. The linggu is used for earthly sacrifices because if god represents heaven, ling (spirit) represents earth. The

lugu is used for human sacrifices because lu has the connotation of a broad way for human beings." (Songshi 129.3012)

The controversial ideas of the officials involved with the Dasheng Institute were not shared by every official of the Ritual Department, notably Chen Yang (c.1055-1122), whose two-hundred chapter Yueshu (Treatise on Music) was completed in 1103. He did not criticize Wei Hanjin's eccentric way of determining the standard pitches, but held a different view about his modal structure and range of standard pitches, which could affect the structure of court instruments such as the bianzhong and bianqing:

Good music should be based on the five degrees and twelve standard pitches, while the two bian and four additional higher degrees make bad music. If the two bian degrees are included in the modal system, the biangong could therefore represent the Emperor. When the modal system accommodates the four additional higher degrees, the higher pitch huangzhong could represent the Emperor. Affairs are related to a period of time, and can therefore be changed. This, however, does not apply to the Emperor. Perhaps the pitches taicou, dalü and jiazhong could be doubled, but not huangzhong. This is why people in ancient times considered it impossible to have two figures occupying supreme positions.

(Yueshu Preface.2b-3a)

Chen's idea was close to Li Zhao, owing to his criticism on the use of the four additional higher pitches, that is huangzhong, dalü, taicou and jiazhong. The objection to the two bian degrees, biangong and bianzhi, was in direct contrast to the earlier Song dynasty theorist Yang Jie, who had taken great care in working out a moral reason for the existence of the two bian degrees. He is therefore seen to have deliberately ignored historical sources such as the Guoyu (Discourses of the States) and Chunqiu zuozhuan (Master Zuo's Spring and Autumn Annals), which refer to the bian degrees in the description of music around 520 B.C. in the Zhou period (Yang 1952:80). Chen, of course, mainly objected to the bian degrees on moral grounds. He was obviously obsessed with the relationship between the five degrees and the hierarchy of the state, an idea expressed in the Yueji. In his mind, a seven-degree

mode would allow the Emperor to be represented by the gong as well as the biangong degrees, which was a challenge to the Emperor's supreme authority.

Likewise, Chen considered the additional huangzhong in conflict with the order of the state because it was the most important pitch fixed to the gong. His ideal range for musical performance was limited to the twelve fundamental pitches, an idea very close to that of Li Zhao during the reign of Renzong. It is therefore not surprising to find pictures of the bianzhong and bianqing provided in Chen Yang's compendium to match Li's ideal number of twelve for each frame (Yueshu 110.2a, 9a).

Southern Song Dynasty (1127-1279):

Jiang Kui's Interpretation of the Zhouli

It is natural to expect a lesser degree of interest in the discussion of music theory after the Song court was forced out of its northern capital Kaifeng and established its authority, with a diminished territory, at Lin'an in 1127. The first Southern Song Emperor Gaozong (r.1127-62) did not have much choice other than to follow what was left of a musical tradition.

Jiang Kui's (1155-1221) Daiyue_yi ³ (Expounding the Great Music), written towards the end of the reign of Emperor Lizong (1225-65), is a testimony to the adoption of the music of the Dasheng Institute during the reign of Gaozong. Jiang accused Wei Hanjin of destroying the tradition of determining pitches through standard measures. His view on pitches had a lasting influence, owing to the admiration of his knowledge in the area by the Song neo-Confucian master Zhu Xi (Picken 1957:20). From the sources available, Jiang did not appear to have devised a way of standardizing the pitches; he only mentioned that "the construction of instruments (hence pitches) should follow the guidelines set by the Ritual

Department” (Baishi Daoren shiji.8). Instead of limiting his discussion to court music, he went on to point out that the privilege of constructing instruments should be confined to court officials, so as to cultivate a proper tradition of paying respect to the Emperor, a sure way to achieve order in the state. Jiang had therefore managed to put forward his own interpretation of the educational value of music discussed in the Liji to encompass music at all levels.

Along the line of his interpretation of pitches, Jiang expanded the moral definition of the five degrees in the Liji to accommodate the hierarchy within the family, the theories of the five elements and five directions, very much in the spirit of neo-Confucian writings in the Song dynasty:

The gong degree represents the Emperor as well as father, while the shang degree the ministers and son. If the gong and the shang degrees are in harmony, so will be the relationship between the Emperor, ministers, father and son. The zhi and yu degrees represent fire and water respectively. The direction of fire is in the south, while water positions itself in the north. If it is possible to suppress the sound of water and amplify that of fire, the south is enhanced while keeping the north under control. The gong represents the husband, while the zhi the wife. The shang is the son of the gong, and at the same time, the son of zhi. It is natural to expect the wife to help her husband, and the son to help his mother. In this case, sound can be organized into a more orderly form. If the zhi is made to sound well, the gong will be in harmony. The same theory applies when the shang is made to sound well, because it means the zhi can give birth to a son. If the process of giving birth is made to continue, good fortune will come, even if there is no deliberate attempt to attract it. At the same time, misfortune will also disappear effortlessly.

(Baishi Daoren shiji.7)

Jiang had therefore concentrated on four degrees, that is, the gong, shang, zhi and yu. Like the earlier Song theorists, he was adamant that the gong degree should represent the most superior position, which would mean the Emperor within the state, or the father within the unit of the family. He did not go into the intricacies of the pitch of the gong in relation to other degrees, because he was not arguing for any system of fixing court instruments such as the bianzhong or

bianqing.

While other Song commentators had so far neglected the moral significance of the zhi degree, Jiang believed it was the second most important degree and related to the element of fire and the southern direction. It also represents the wife whose duties are to assist her husband and to reproduce offspring. It therefore has the quality for maintaining the continuity of the state. This makes sense, from a musical point of view, because the zhi, a fifth above the gong, is the first degree generated from the latter by the Method of Triple Division, that is, by taking a third from the original length of the pitch-pipe of the corresponding degree.

In addition, the yu, the last of the five degrees, was taken seriously. Jiang took the unusual step of emphasizing the need to suppress it, owing to its association with water and the northern direction. This is a far cry from the traditional positive definition of the degree, which had related it to matter, the most tangible quality in the constitution of the state. It is possible to argue that he was making use of this connotation to discredit the foreign occupants of the original northern Song empire.

Jiang's ranking of the five degrees was rather original; he found it essential for the gong, zhi, shang to be in harmony before a correct system of court music could be established. This is in contrast to the ideas of the theorists in the earlier Song empire, who followed the spirit of the hierarchies of the states associated with the five degrees described in the Yueji closely, and believed the gong, shang and jue degrees were most important.

Referring to the description of one mode for each of the instrumental and vocal sections for the six ancient pieces of music in the Zhouli (22.7b), Jiang argued for the restriction of twelve gong modes in ceremonial music, and warned against any attempt to use the system of the Sui and Tang dynasties of eighty-four

modes, the combinations of the twelve absolute pitches and seven degrees (Baishi Daoren shiji.8). This is a typical example of a deliberate attempt to misinterpret the canonical text in order to put forward an idea of music performance. While the Zhouli names the twelve pitches, it does not say the music is to be performed in the gong mode alone. In fact, the same classic prescribes four modes, that is, the gong, jue, zhi and yu, for music performed in the sacrificial rites for Heaven, Earth and Human Spirits (Zhouli 22.13b). He must have been aware of the fact that such a multi-modal combination is contradictory to his proposed theory.

Based on the same passage concerning the six ancient pieces, Jiang gave some practical hints on how the Ritual Department should organize the modes of instrumental and vocal music. While the Zhouli prescribes six yang modes for the former and six yin modes for the latter, he took a freer approach in his interpretation by allowing yin modes in instrumental music:

As for the music of the present Ritual Department, when the instruments play in the mode of jiazhong, they are in a yin mode⁴. To match it, the singers should be in the yang mode wuyi. Yet they sing in the mode of dalü. When the instruments play in the mode of hanzhong (linzhong), they are in a yin mode. To match it, the singers should be in the yang mode ruibin. Yet they sing in the mode of yingzhong. When the instruments play in the mode of huangzhong, they are in a yang mode. To match it, the singers should be in the yin mode dalü. Yet they sing in modes such as yize, jiazhong, zhonglü or wuyi. The only way to achieve harmony between heaven and human beings is to rectify the modes of the vocal sections.

(Baishi Daoren shiji.8)

In the eyes of Jiang, the ceremonial music at the Song court must have been chaotic. The three modes for instrumental music refer to the music performed in rituals for heavenly, earthly and human spirits in the Zhouli (22.13b-14b). His main objection was the failure to juxtapose modes of the opposite gender for the corresponding vocal sections, therefore against the principle of yinyang. The feminine (yin) mode of jiazhong in the heavenly ritual was wrongly paired with

another feminine mode dalü. The same applies to the modal arrangement for the earthly ritual, wrongly pairing the two feminine modes of hanzhong (linzhong) and yingzhong. The choice of modes for the singers in ritual for human spirits was random, mixing yang modes yize and wuyi with yin modes such as jiazhong and zhonglü. His suggestion was not to change them into yang modes, as described in the classic, but to assign the yang modes wuyi and ruibin to the complementary vocal sections. He must have thought that so long as the instruments and singers were in different yinyang classification, the spirit of the canonical text had been observed.

In spite of Jiang's contribution to the discussion of modes in ceremonial music, he did not manage to work out the exact pitch of the fundamental huangzhong. The fact that he had written fourteen songs to celebrate the military achievement of the Song court has earned him a reputation for being able to master music of his period. He apparently admitted there was little chance to revive ancient music, a tradition valued so much by the Ritual Classics. The Songshi (Song History) attributes his failure to the inability in determining the correct pitches (131.3054).

*The Summit of Southern Song Dynasty Discussions in Music:
Cai Yuanding and Zhu Xi*

One of the most important treatises on music in the Southern Song is Cai Yuanding's (1135-1198) Lulu xinshu (A New Treatise on the Pitch Pipes)⁵, which concentrates on the discussion of how pitches for ceremonial music should be determined, resulting in the adoption of six additional pitches to the basic twelve generated by the Method of Triple Division. The authentication of the date of the preface written by his teacher and friend Zhu Xi as 1187 proves that it was written

during the reign of Xiaozong (Pian 1967:7).

In order to guarantee Cai Yuanding's credibility, Zhu made the assertion that his pupil's idea of determining the fundamental pitches before the establishment of a correct measure was based on theories put forward by Cai Yong and others in the Han and Cheng Yi and Zhang Zai in the Song dynasties (Lulu Xinshu Preface 1.2a-b).

Cai Yuanding's emphasis on the importance of the huangzhong was based on the definition given in the Hanshu (History of the Former Han Dynasty), which classifies the five-degree mode built on this fundamental pitch as the most proper mode:

Huangzhong is therefore the first of the twelve pitches and is superior to the others. This fundamental pitch cannot be arrived at through calculating the lengths of other pitch-pipes. Its higher octave pitch-pipe measures 4.5 inches. It has never been made clear that the number 177,147 cannot be divided equally, and it cannot be arrived at through the method of Triple Division. It has been suggested that huangzhong can be the biangong of dalü, the yu of jiazhong, the zhi of zhonglü, the bianzhi of ruibin, the jue of yize and the shang of wuyi. Yet the proper way is to call the huangzhong derived from these pitches a bian (varied) pitch. The huangzhong generated from its higher octave is not considered as a proper pitch. This is why huangzhong represents the Emperor, and is beyond the ability of human beings to generate it. This is a natural number which cannot be derived from other pitches.

(Lulu xinshu 2.21a-21b)

Obviously, Cai Yuanding was obsessed with the moral distinction of the elements of music, as in the ranking of the five degrees according to the hierarchies of the state in the Yueji. In his mind, the pitch huangzhong was synonymous with the gong degree, which represented the Emperor, as defined in the classic. Cai's main point was to put forward the idea that huangzhong was such an important element in ceremonial music that once it was determined, it had to dominate all the others. The reference to the complicated number of 177,147, the twelfth integer of

the series $3^0, 3^1, 3^2, 3^3, 3^4 \dots 3^{11}$, was to prove that the numbers governing huangzhong could not be divided into two equal integers, no matter how large the numbers become. The dismissal of any possibility to re-generate the number 9 assigned to huangzhong through the Method of Triple Division, that is the on-going process of dividing the number by 3 and multiplying it by 2 ($9 \times 2/3 = 6$) and dividing the resulting number by 3 and multiplying it by 4 ($6 \times 4/3 = 8$), further supported Cai's argument for the uniqueness of the pitch. He also thought it was not possible to regard huangzhong as a derivative degree from pitches such as dalü, jiazhong, zhonglü, ruibin, yize and wuyi. It is therefore possible to consider Cai's advocacy of eighteen pitches, which involves the extension of the mathematical process of Triple Division beyond the twelve basic pitches, a natural consequence of his strong conviction of preserving the individuality of huangzhong.

After all, Cai had to have some reasons for introducing six additional pitches to the basic twelve. Having established the importance of huangzhong, and hence the gong degree, Cai was quick to follow some of the Northern Song theorists in endorsing the idea of maintaining an order for the five degrees:

The gong degree of each of the twelve basic pitches is of varying length, yet the corresponding degrees representing the ministers, people, affairs and matter should have an order, so that there is no intrusion of those in low positions to those who are superior.

(Lulu xinshu 2.29a)

This was in contrast to the theory of the Northern Song official Li Zhao, who did not allow any pitches beyond the basic twelve. This reference to the moral qualities of the five degrees in the Yueji shows Cai was anxious to give some credibility to Song theorists who proposed to add four higher pitches to the original twelve. However, he made a distinction between the four higher pitches generated by halving the lengths of their corresponding basic pitch-pipes huangzhong, dalü,

taicou and jiazhong and those arrived at through the Method of Triple Division. He was in favour of the latter method, and pointed out that the thirteenth pitch generated from the fundamental huangzhong, and those following, should be considered as bianlu (varied) pitches, because they were slightly higher than qing (higher octave) pitches.

Hu Yuan's idea of adding four higher pitches to the basic twelve was criticized as against the concept of the Method of Triple Division, because he gradually decreased the circumference of each of the four added pitches. Cai thought that by doing this, Hu managed to produce exact higher octave pitches of huangzhong and taicou, yet the higher dalü and jiazhong were not exact doublings of their fundamental pitches. Cai's criticism of Hu extended to his gradual decrease of the circumference of the four highest pitch-pipes of the basic twelve, namely yize, nanlu, wuyi and yingzhong (Lulu xinshu 2.29a-29b).

Cai therefore had very little flexibility when it came to the interpretation of the mathematical and moral implications of the Method of Triple Division. By introducing means in addition to the Method of Triple Division to control the pitches, Hu was considered to have failed to produce the correct twelve pitches from the fundamental huangzhong. This would have affected his chance of being able to establish the five degrees, which represented the order of the state. The four additional higher pitches proposed by Hu allowed the gong degree, which was the musical symbol of the Emperor, to maintain its dignity by enabling it to have a position below the shang and jue degrees, which represented the ministers and people. This happy balance of the order of the state was, however, completely destroyed when the diameters of some pitch-pipes were altered.

The determination of an exact huangzhong pitch-pipe was the basis of Cai's theory of eighteen pitches. Unlike some of his Song predecessors such as Wang

Pu, he was convinced that this fundamental pitch should not be derived from existing measurements or weights. In fact, he blamed Wang for wrongly promoting the fashion for fixing the length of the huangzhong pipe from a rule, which led to a series of debates on the ways to arrive at the pitch (Lulu xinshu 2.1b-2a).

Cai believed it was possible to re-establish the correct pitches based on the ideas of outstanding Han dynasty Confucian scholars such as Sima Qian and Ban Gu, who had referred to huangzhong as something “created by the finest qi (force) and sound and preserved by the spirit of the ancient sages” and “fixed by the feng (wind) and qi (force) of heaven and earth (Lulu xinshu 2.2b-3a). Cai’s reference to qi, a quality identified by Song neo-Confucianists as a means to unify all matters, strengthened his argument that huangzhong could be determined through a process involving the manifestation of qi. What he had in mind was the practice of houqi (watching for the ethers), a traditional practice involving the positioning of twelve pitch-pipes in a sealed room so that each of them might respond at a particular instant when the qi of heaven and earth met. His own interpretation of the practice, was, however, rather original:

The longer the pitch-pipe, the lower is its pitch, and the sooner will its qi arrive. If the pitch-pipe is too long, it is impossible to produce any sound. In this case, there is no response to qi. The shorter the pitch-pipe, the higher is its pitch, and the later will its qi arrive. If the pitch-pipe is too short, it is also impossible to produce any sound. In this case, there is no response to qi. This is a general phenomenon. If one wants to determine the optimum quality governed by sound and qi, that is huangzhong, under the condition that there is no standard of measurement to follow, the best way is to cut a large number of bamboo pipes, from the shortest to the longest, which have the difference of $\frac{1}{10}$ of an inch from one another. The length of each pipe can be considered as nine inches, and the circumference is worked out according to the traditional method of fixing the huangzhong pipe. If each pipe is blown in a similar manner, it is possible to identify the pipe which emits an optimum pitch (zhongsheng). If one aligns the pipes according to the length of the pipes, it is also possible to capture the optimum force (zhongqi). If the sound is in harmony and the qi responds to it, the huangzhong pipe will then have the right pitch. If this

is the case, the other eleven pitches and units for length, volume and weight can be established.

(Lulu xinshu 2.3a-3b) ⁶

If qi is considered as the force or energy necessary for the production of sound, Cai's initial argument is in complete agreement with modern theories in acoustics because if a pipe is too long or too short, the sound it emits will be inaudible. Under these circumstances, the qi cannot be considered as having achieved its role, owing to its failure in causing the human ear to respond to it. Cai had therefore placed human perception above physical qualities such as measurement. His consideration of huangzhong involved two levels: first the audible part sheng which is blown by human beings, and second the more abstract part qi which is inherent in the universe and can only manifest itself under the right circumstances. It is therefore human beings, presumably in the narrower sense of those given the mandate to rule or those in charge of ceremonial music, who have to take the initiative in the identification of the correct pitch, no matter how subjectively.

Cai's suggestion that all the pitch-pipes undergoing acoustic test should measure nine inches is open to criticism. Yet one has to bear in mind that he began his tests under the premise that there was no standard measure that could lead to the determination of the right huangzhong. What he actually meant was when the correct pitch-pipe, by means of trial and error, was identified, the length of the pipe should be considered as measuring nine inches, a quantity widely accepted by scholars since the Han dynasty. He was quite vague here when he referred to the fixing of the circumference of the pitch-pipe. In the section devoted to the discussion of huangzhong, he suggested the right pipe should measure "nine fēn ($9/10$ of an inch) in circumference" (Lulu xinshu 1.5a). In other words, when the

correct pitch-pipe was chosen, its circumference would be taken as nine fen. There is, of course, less acoustic reasons for extending discussion to this particular aspect.

While the process of determining huangzhong by blowing and listening to pitch-pipes was relatively simple, its verification involved a new application of the theory of houqi (watching for the ethers). The practice since the Han dynasty had been concerned with the testing of twelve pitch-pipes constructed from pitches used in court instruments, particularly those of the bianzhong and bianqing. Cai's experiments would have to include a much greater number of pitch-pipes, owing to the desire not to exclude any pipes which might respond to qi. Unlike the previous supporters of the theory, who conducted the tests after the establishment of court music, Cai found it necessary to verify huangzhong before proper music could emerge.

On the other hand, there is no evidence that Cai Yuanding managed to identify any pitches other than those adopted by the Dasheng Institute, that is 298.7 Hz (d+) for huangzhong (Yang 1952: 290-91). What Cai was interested in was to establish a way to determine this fundamental pitch. This would automatically take care of the final results.

He was, of course, not alone in the Song dynasty in advocating such a subjective way of finding the right pitch for huangzhong. He admitted that he was influenced by Song neo-Confucianists such as Zhang Zai and Cheng Yi in the establishment of fundamental pitch through the active process involving human senses in choosing and the passive process of verification through houqi beyond human control (Lulu xinshu 2.2a-2b).

While Cai Yuanding was quite ready to arrive at the conclusion that the identification of the right huangzhong was the most crucial step in the establishment

of proper ceremonial music, Zhang Cai (1020-77) chose to investigate the same issue through the long process of extracting the characteristics of ancient music based on a number of classics:

Ancient music is lost because people of this generation have taken too much trouble to restore it. As a result, they think it is impossible to understand it. Try taking the passage "Poetry expresses one's feeling, songs enhance words; singing has to match the tones of the words, and it has to be in harmony with pitches" from the Book of Yu taken from the Shangshu (Book of Documents), it is possible to get the meaning of music from it. Poetry is only concerned with the expression of feeling, and the only role of songs is to decorate words in poetry. It is possible to make changes to singing so that it is acceptable to the ears. Nowadays, those who are considered good singers can change the ways of singing while keeping the original words. After the words are pronounced in a musical way, they still need to be in the right pitches. There are very few people who understand the essence of pitches. It is therefore hard to sing in the right pitches. Ancient music has the potential to develop a virtuous harmonious force (qi) to cultivate the human character. When the later generations discussed music, there was little attempt in investigating anything else other than music that would stir the human emotion. Therefore, Duke Ping of the State of Jin had said "There is no music which causes more emotional disturbance than this." When music becomes emotional, it loses the quality to rectify the wrongful mind. When one sings, it should not be too high nor too low. If it is too high, it will be too aggressive; if it is too low, it will be too relaxed. If one exhausts all possibilities to make the necessary changes, the intrinsic qualities of music will be revealed.

(Xingli daquan 66.28b-29a) ⁷

Although Zhang did not give a precise definition of ancient music, he took it for granted that it should be re-established. By blaming the Song theorists who had taken too much trouble in the investigation of ancient music, he presumably wanted to dismiss all methods which involved the generation of pitches, especially the fundamental huangzhong, from any physical measuring tools, ancient or contemporary. This quasi-Daoist attitude in refusing to be bound by any physical limit is typical of neo-Confucian thinking in the Song dynasty, when scholars were ready to apply existing theories to solve a contemporary problem (Loewe 1990:112). In this respect, he was very similar to Cai Yuanding. The quotation of the passage concerning the relationship between poetry and music from the

Shangshu, which is echoed in the Liji (38.14a), shows Zhang regarded poetry as something permanent, while music was subject to change, and therefore had to be re-assessed from time to time.

This is a skilful way to downplay the significance of the previous efforts in working out the correct pitches, which, in many cases, had since the Han dynasty, involved complicated mathematical calculations. It also serves Zhang's purpose of introducing a simple method to determine pitches, which was based on music acceptable to human ears. He considered music which would stir human emotion contradictory to the educational goals of ancient music. His ideal pitches were based on the effect they might have on the singer; they should not be too high nor too low. Although Zhang did not mention who should have the responsibility of fixing the pitches, the fact that he referred to the historical figure Duke Ping of the Jin State with the involvement of the famous musician Shi Kuang⁸ of the sixth century B.C. proved that he meant a similarly respectable figure in the Song dynasty.

Zhang's theory for checking the pitches was closely related and yet more broadly based than Cai Yuanding's method of watching for the ethers:

The way (dao) music is constructed should be in harmony with heaven and earth, and it should be related to the administration of the state. When the silk-worm produces silk, the shang string of the qin will break. This is in response to heaven and earth. At the instant when the silk-worm produces silk, the force (qi) corresponding to the element of wood is at its peak, while the force corresponding to the shang degree or the element of metal is at its weakest point. When one says the pitches taicou or linzhong are at their peaks at one moment, their counterparts must be at their weakest points. At the beginning of spring, the force governing wood is very strong. If its counterpart, that is the force corresponding to metal, is not weak at the same moment, there is no harmony. There is also no question of responding to the forces of heaven and earth.

(Xingli daquan 66.29a)

The definition of music in the context of heaven and earth, and the statement

of its close relationship to the well-being of the state, are closely related to a number of passages in the Yueji (Liji 37.4b,14a,17a,23a). Yet Zhang deviated from the Classic and skilfully developed his own idea by emphasizing the importance of dao, the way music was constructed. In Zhang's mind, the dao of music was a kind of energy governed by pitches. It also had the power to respond to the natural force created by heaven and earth. This kind of invisible interchange could only take place in an orderly manner, with a particular pitch reacting at an instant depending on the presence of the force related to the five elements, metal, wood, water, fire and earth. Since silk-worms only produced silk at the beginning of spring, when the energy of heaven and earth was in harmony with the element of wood, Zhang believed it was the time that the force governing the element of metal should be the weakest. As a result, the shang string of the qin should break, because the shang degree belonged to metal.

The qin is a useful reference, because its strings are tuned to a five-degree mode. Zhang also managed to apply the phenomenon of its strings to the theory of pitches, covering pitches such as taicou and linzhong. This is very similar to the monthly allocation of pitches described in the chapter Monthly Commandments in the Liji except it is now expressed in terms of recurring force. Zhang apparently did not go any further concerning technicalities in his investigation of the verification of pitches. It is, however, still fair to conclude that Cai Yuanding was justified in attributing part of his own success in the fixing of huangzhong through houqi to Zhang.

The other school of thinking which Cai Yuanding had claimed to have influenced his theory of pitches originated in Luoyang (in present Shanxi), represented by Cheng Yi (1033-1107), the younger brother of another prominent figure of the same school, Cheng Hao (1032-85), who were both, like Zhu Xi,

affected by the theory of force (qi), the invisible binding power behind all matter proposed by Zhang Zai (Li Jie 1978:328).

Cheng Yi's starting-point was based on the Confucian belief that ancient music, the kind of didactic tool promoted throughout the Yueji in the Liji, was perfect, and theorists of his generation could not formulate ideas of the past properly:

The music of the former sage-emperors had to be governed by a set of correct pitches. Since it is impossible to find the right pitches, and it is futile to depend on unreliable human ears, it is very difficult to create ancient music. In order to determine the optimum musical range (zhongsheng), one has to find the right pitches. If the right pitches are not found, there is no way to find the right range for music. Pitches are governed by numbers which belong to nature, yet the present system of length, weight and volume is not correct. If the modern methods of measurement are adopted, the results would deviate from those in antiquity. Although pitches are generated from things belonging to nature, they still need human beings to carry out the task. People of antiquity determined the pitches naturally, because their ways of drawing straight lines and circles were faultless.

(Henan Chengshi yishu.184)

Cheng began with the premise that ancient music had its desired effect because it was performed according to correct pitches. Soon he argued in such a way as if pitches were the only factor affecting the quality of music, ignoring basic elements such as words, rhythm or instruments. His ultimate goal was to find the proper range for music, which was based on having the correct pitches. Like Zhang Zai before him and Cai Yuanding after him, he resented the wrong system of measurements available to him, and, as a result, dismissed any possibility in devising correct pitches from them.

Cheng believed correct pitches were present in nature, and, in the end, human beings had to determine them. This is very similar to the first step Cai Yuanding was to take, which involved the choice of fundamental pitches subjectively. The fact that Cheng thought such a technique was easily mastered by

people of ancient times was an exaggeration; what he meant was there were less distractions before theorists began to formulate complicated ideas of pitches based on measurements, which were against nature. What was important to Cheng was the handling of basic mathematical techniques such as the drawing of straight lines and circles, which he believed were not mastered by his contemporaries.

Cheng went on to give more reasons why units of measurement should be derived from the fundamental pitch huangzhong and not the other way round, supporting his arguments with a demonstration of the fallacies of the common methods of the standardization of measurement:

The present standard rule is longer than that of the distant past. If there were to be a correct system of length, weight and volume, it must be based on pitches. Pitches are derived from huangzhong, which is not difficult to fix. There are bound to be people who have a good understanding of music, and are able to select the right pitch from numerous pitches available, from high to low. Once the correct pitch is chosen, it is possible to fill the corresponding pitch-pipe with millet grains. Simply count the number of grains in the pitch-pipe, then huangzhong could be represented by the number. The ancient huangzhong pitch-pipe has the volume of 1,200 millet grains, yet if the modern grains from Yangtuo Mountain are used, the number may differ. One may well have to accept a different number of grains for huangzhong pipe. This is why Hu Yuan was wrong when he tried to determine huangzhong by using a sieve of the third rank to pick up millet grains from Yangtuo Mountain, and chose those which were neither too big nor too small to fill up the pipe with 1,200 grains. His huangzhong was wrong because it was derived from a measure which was not reliable. There were also ways to determine the standard pitch through the human body. Some had suggested taking the length of a forelimb as 1.2 feet. Yet if one considers the physique of ancient people, is 1.2 feet really a possible length?

(Henan Chengshi yishu.50)

Cheng's idea that the standard rule in the Song dynasty was longer than that of the past was presumably just an opening remark to highlight the inevitable changes in the standard of measurement. His perception was, however, different from the first Song Emperor Taizu, who criticized the pitches being too high, which led to subsequent revisions, resulting in the lowering of huangzhong from 379.4

Hz in c.960 to 298.7 Hz from c.1104 onwards, a difference of 80.7 Hz, or about the difference of a perfect fourth (Yang 1952: 281-90). Cheng thought the fundamental huangzhong could be fixed by simple means; good musicians with discerning ears could achieve the goal by using their senses subjectively.

While not denying the validity of the traditional method of measuring the volume of huangzhong by 1,200 millet grains or deriving the length of the huangzhong pitch-pipe from the length of a forelimb, Cheng tried to prove the factors affecting the accuracy of the units of measurement in both cases might change, owing to the variable sizes of the grains and the human body. This amounts to a hidden criticism of traditional musical practices. The alternative he proposed could lead to a completely different huangzhong, owing to the difference in approach. This was in line with the neo-Confucian attitude to promote new interpretations of traditional beliefs.

In the monitoring of the accuracy of pitches, Cheng was very vague. He thought they should be governed by “the forces (qi) of heaven and earth” (Henan Chengshi yishu. 67). Yet it is clear that what he had in mind was some means which allowed the interaction between these abstract forces of nature and a pitch-pipe. The principle had all the qualities of the method of houqi, endorsed and spelt out clearly by Cai Yuanding.

Both Zhang Zai and Cheng Yi could have named Cai Yuanding as the person they had in mind who had the instinctive and intellectual power for the determination of the right pitches, had the last been their contemporary. No doubt, Cai must also have thought he possessed all the necessary qualities to implement moral and scientific theories of the two philosophers, whom he and his teacher Zhu Xi admired.

While Cai Yuanding’s theory on pitches relied heavily on the determination

of the right huangzhong, a fundamental pitch which he related to the gong degree, an idea expressed in the Liji. Zhu Xi (1130-1200) believed all the three ritual classics had varying degrees of value in the preservation of rites and music:

It is a matter of urgency that rites and music have to be put into proper use. Since the destruction of Confucian learning in the Qin dynasty, the tradition of rites and music was the first to disappear. Confucian scholars in the Han and Jin dynasties had tried their best to rescue the practice, yet there was not a perfect book which captured the essence of rites and music. The only information available was in the three ritual classics. The Zhouguan (Zhouli) is the essence and outline of rites, the Yili the text proper with detail of the procedures, and the Liji the commentaries on rites, owing to the chapters such as Sacrificial Rites of Heaven and the Essence of the Capping Ceremony.

(Xingli daquan 66.31b)

As one of the most influential scholars amongst Song neo-Confucianists, Zhu Xi was, of course, expected to value the tradition of rites and music. He was also realistic concerning the possibility of discovering the sources necessary for the revival of these practices. The identification of the three ritual classics as the only reliable sources of rites and music was an over-simplification; there were pieces of information readily available in almost all of the remaining ten recognized classics. While there had been a number of scholars prior to and in the Song dynasty who had developed their musical theories from these ritual texts, Zhu Xi was the first to define their roles and integrate their common ideas.⁹

It was rather unusual for a prominent figure like Zhu to take the Zhouli seriously after the classic had been identified as the principal cause of the political turmoil initiated by the controversial reformer Wang Anshi (1021-86), who wrote Zhouguan xinyi (New Meanings of the Zhouguan) to promote his ideas. Zhu was, of course, aware of Wang's misuse of the doctrines of the Zhouli (Shaoxi zhouxuan shidian yitu.4), yet he had not dismissed its value entirely. He believed the Zhouli was the legacy of the ancient Emperors of Zhou which "contained the

broadest and most sophisticated descriptions of the rules of propriety” of the period (Yucuan Zhuzi quanshu 37.10a). In reality, he was only concerned with the extraction of ideas from the classic which showed a direct relation to the Yili and Liji (Kao 1986:312).

Zhu defined the relationship between the Yili and Liji very clearly in a scientific manner, as if the latter were written to illustrate the moral implications of the more factual ritual procedures presented in the former:

The Liji must be studied in connection with the Yili. In ceremonies such as Capping, Funeral and Dining at a Locality, the Yili describes the actual procedures, while the Liji provides the meaning for these rites. If one only studies the Liji and not the Yili, he will not be able to put meaning of rites in the right context.

(Yucuan Zhuzi quanshu 37.27b)

The Yili was therefore, in general terms, the practical element of the rites which had to be complemented by the theoretical Liji before it was possible to get full benefit from the Confucian ceremonies. Zhu’s contribution to the study of rites and music was closely related to his re-interpretation of the three ritual classics in the macro and micro contexts, which involved the integration of the classics into a whole, while at the same time attempting to elucidate the original text.

Zhu Xi was constantly aware of the importance of moral virtues to the stability of the Song society (Kao 1986:313). It is of no surprise that he valued the lost tradition of ancient music highly, in line with the general spirit of the Yueji in the Liji. Zhu considered the problems connected with the revival of ancient music very acute owing to the general recognition of the shortcomings and yet somewhat indifferent attitude of the educated class: “If one talks about music as a learning area, there is hardly any teacher for it. Scholars and officials who understand measurements of pitch-pipes and pitches realize their knowledge is incomplete” (Xingli daquan 66.31b).

Zhu found out the problem was due to the poor understanding of music instruments, and hence the lack of opportunities to hear proper music or to appreciate its moral significance. His solution was very simple: establish a teaching position in music so that eventually there would be scholars who excel in the area (Xingli daquan 66.32b).

On the other hand, he realized it was a difficult if not impossible task to revive the musical tradition. His basic approach to music was similar to Cai Yuanding, and involved the first step of determining the right pitches and the second step of making sure they were accurate. He made a very vague generalization of how pitches were fixed in ancient times: "When the prince was born, the Grand Music Master blew pitch-pipes to match his voice, so as to decide which pitches were correct for him. The optimum pitch was generated from the highest and lowest pitches" (Xingli daquan 66.32b). In other words, the so-called "optimum pitch" (presumably huangzhong) was based on actual sound and not units of measurement. He went on to give more practical hints in this area, which did not have too much emphasis on complicated music theories or rely on the discovery of the right standard of measurement:

For example, one can eliminate pitches which are too high or too low from the music of the present, and rectify the system of pitches. At the same time, order the official who is in charge of musical texts to provide new words, so that they have the proper didactic character to promote the relationship between the host and the guests or the Emperor and the ministers. If these texts are set to music and sung in the proper way, they can cultivate peace in the human heart.

(Xingli daquan 66.32a)

The determination of the correct pitches was the most crucial aspect of recreating a good musical tradition. Zhu also considered it was appropriate for human beings to arrive at the right pitches subjectively by applying their aural senses. He believed pitches "were related to human beings by a kind of qi

(energy)” (Xingli daquan 66.32b). This was a hint that they could be verified by the method of houqi, which he was to discuss in the musical chapters in his Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries). It is important to note that while most Confucian scholars before him dismissed the value of contemporary music, Zhu held a contrary view that ancient music was preserved in some form in music of his time, owing to the dependence of his theory on music of the living tradition. This is a way to downplay the difficulty in re-structuring music which was supposed to be in the spirit of that of the ideal past.

Zhu Xi’s theory on mode was based on the idea of the five degrees discussed in the Yueji (Liji 37.5a). His reason for such a limitation was, however, musical rather than ethical: “Pitches can be best illustrated by a pagoda. The wider the circumference, the lower is the pitch. The narrower the circumference, the higher is the pitch. Pitches below gong degree are too low, while those above yu are too high. The five degrees are the only optimum range (zhongsheng) for music” (Yucuan Zhuzi quanshu 41.2a). This is by no means very original. Even the adoption of the term zhongsheng shows the influence of Cheng Yi, a neo-Confucian scholar of the previous generation.

Under the influence of the theory of hierarchies of the five degrees described in the Yueji, Zhu formulated his idea of installing sixteen pieces of pitched percussion instruments for each frame:

The twelve pitches should take their turns to be the principal degree gong. Gong represents the Emperor, while shang the ministers. It is important to avoid the notion of the intrusion of the role of the Emperor by the ministers in music, and this is why there are four additional high pitches. Take the fangxiang of the present day as an example, out of the sixteen pieces, twelve are tuned to the basic pitches, while four are according to the four additional high pitches. These four pitches are exactly half of their basic

itches. When yingzhong is taken as gong, this is the highest gong pitch possible.

(Yucuan Zhuqi quanshu 41.3a)

His concern in maintaining respect for the Emperor by the use of the four additional higher pitches was a reiteration of the same view-point put forward by Cai Yuanding and other Northern Song scholars. With the introduction of the higher pitches of huangzhong, dalü, taicou and jiazhong, Zhu thought it was possible to keep the gong degree below shang and jue, the last two representing ministers and people, in any form of transposition within the twelve basic pitches. It is interesting to note that Zhu did not follow his predecessors in the use of the more respectable bianzhong as an example for discussion. Instead, he was perfectly happy to refer to the fangxiang, a kind of tuned percussion instrument arranged in the manner of the bianzhong or bianqing which came into existence in the sixth century, and was widely used in the quasi-ceremonial and yet extravagant dining music at the courts of Sui and Tang dynasties in the seventh and eighth centuries. In this respect, Zhu showed a more liberal view than most Song theorists. This is also a natural path he would choose to take, if his desire was to re-establish something of the past based on what was readily available at his own time.

Zhu Xi's most extensive discussion on music is found in his Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries), a work which was extended and published by his pupil Huang Gan (1152-1221), who added twenty-nine chapters to the original thirty-seven (Provine 1988:91).¹⁰ There is evidence that two other disciples of Zhu, Zhang Mi (fl. 1222) and Yang Fu (fl. 1222), had also contributed to the work in its present form (Kao 1986:316). Since the other contributors could not have deviated significantly from the original spirit of Zhu Xi, it is reasonable to refer to the work as written by the Song neo-

Confucian master, given the difficulty in identifying the exact contribution of each of the later writers.

Zhu's reasons for writing the Yili jingzhuan tongjie were connected to his belief in the unjust neglect of this classic and the futility of efforts that devoted all energy to the pursuit of ritual practices through the study of the Liji, as in the Han period:

I wish to write a book which includes the headings of the Yili at the beginning, and those of the Liji following closely... If the commentaries of the original classics have any information on the ways these ceremonies were held, they will be adopted accordingly... In olden days, the Yili was one of the six classics and three histories. It was withdrawn from the official curriculum by Wang Anshi. Nowadays, scholars study the Liji but not the Yili. I am sure they can only grasp the peripheries but not the fundamentals.

(Yucuan Zhuqi quanshu 38.3b)

The Yili was therefore used as a cure for the damage inflicted by the common enemy Wang Anshi, who was blamed for paying too much attention to the wrong ritual classic. The idea of using the Liji to extrapolate the meaning of a difficult text such as the Yili was scholarly in approach, owing to the similarities in content and historical background of the two classics. Zhu was also one of the few neo-Confucian scholars who gave high regard to the commentaries on the texts. He particularly favoured those written by Zheng Xuan (127-200) and Jia Gongyan (fl. 650) (Kao 1986:312). In a way, this would have undermined the absolute authority of the original texts. Zhu must have thought it was more important for him to have the freedom to accommodate different view-points in the interpretation of the classics.

The four musical sections of the Yili jingzhuan tongjie are included in Chapters 13 and 14 under the headings of Pitches for Bells, Meaning of Pitches for Bells, Musical Settings for the Book of Poetry and Treatise on Rites and Music.

They are grouped in such a way that the second section develops the idea of the first, while the fourth section sheds light on the moral effects of the musical settings in the third. Such an arrangement is in general agreement with the structure of the book.

It is logical for Zhu Xi to include the musical settings in a treatise concerned with the Yili, because they correspond to the titles of the twelve poems mentioned in a number of rituals in the classic. It is, however, difficult to understand his intention of including a lengthy discussion on pitches in this context, owing to the procedural nature of the content of the classic. In fact, the Yili hardly refers to theoretical aspects of music such as pitches, degrees or modes, even in its most musical sections. The only plausible explanation for Zhu venturing into this area in this work is his recognition of the importance of the right pitches in the performance of ceremonial music.

While the significance of huangzhong is discussed in other general sources on Zhu Xi, the Tongjie has been found to contain Cai Yuanding's theory on pitches, a possible reason for the latter's lasting influence on subsequent musicians (Pian 1967:10). This refers to the incorporation of Cai's idea of adding six bian (varied) pitches to the basic twelve to counter the deficiencies of the Method of Triple Division in the generation of pitches from the basic huangzhong (Tongjie 13.9b-11a). Zhu must have agreed with Cai that these extra pitches were necessary for the correct performance of ceremonial music in all possible transpositions, so as to keep the gong degree below the shang and jue, maintaining the order of the state defined in the Yueji.

Zhu proposed no new way of determining huangzhong in the Tongjie; he referred to the account of the legendary Emperor Huangdi in Lushi chunqiu who relied on the bird-calls at the west of Daxia to set the fundamental pitch. What is

important is the implication that such a pioneer process does not rely on any existing system of measurement. The involvement of the hearing sense of the Emperor was very similar to the first step suggested by Cai Yuanding. Zhu went on to explain that length, volume and weight should evolve from this basic pitch (Tongjie 13.1b-2a).

Like Cai Yuanding, Zhu also took the same step of suggesting the use of Watching for the Ethers for the verification of huangzhong. The steps he outlined were more straightforward than those of Cai. Only one pitch-pipe was involved in the process; there was no question of introducing the complicated step of cutting a large numbers of pipes of $1/10$ inch difference in length (Tongjie 13.1b).

The most valuable aspect of the Tongjie is perhaps the inclusion of twelve melodies set to poems named in a number of rituals discussed in the Yili. Although Zhu had serious doubts about the authenticity and moral values of these settings, the inclusion of these musical settings in julu notation (Appendix 2) proves that he was one of the first scholars in Chinese history to consider the practical aspect of music as important as the theories behind it:

The twelve musical setting of the Shijing were supposed to be transcribed by Zhao Zijong. These were songs sung during the District Drinking Ceremonies. Yet they are against the tradition because some of them use the gong mode on the higher octave huangzhong. Since the huangzhong pipe should measure nine inches, the other pitches should be in harmony when huangzhong is taken as gong. If, on the other hand, other pitches are taken as gong, there is bound to be disharmony. Just take the pitch huangzhong as a basic reference, when its ninth pitch and those following (yize, nanlu, wuyi and yingzhong) are taken as gong, huangzhong will become the jue, yu, shang or zhi degrees. If huangzhong is jue, it has the connotation that the people are against their Emperor. If huangzhong is shang, the ministers are against their Emperor. The zhi and yu degrees represent affairs and matter respectively, and their moral significance can be put into a musical context accordingly. The Yueji says "if all five degrees are unclear and clash disagreeably with one another, there will be general confusion and in the near future state and people will face disaster and annihilation." It is therefore necessary to create four additional pitches from higher huangzhong. The lengths of these pipes are half of the basic pitches. In the case of huangzhong, its higher pitch-pipe measures 4.5

inches in length. If the last four of the twelve basic pitches (yize, nanlu, wuyi and yingzhong) are taken as gong, huangzhong has to be jue, zhi, shang or yu. In these cases, the basic huangzhong has to be replaced by its higher octave, so that there is no question of not respecting the authority of the Emperor.

(Yucuan Zhuqi quanshu 41.11b-12a)

Zhu Xi was therefore sceptical about the origin of these melodies, which were supposed to have been transcribed by the Song scholar Zhao Zijing (Yanshu) in c.1170 and dated to the Kaiyuan period (713-41) of the Tang dynasty. Indeed, Zhu's doubt on the Tang origin of these settings had been substantiated by Pian, who believed they possessed more Song modal and melodic features than those of Tang (Pian 1967:10). Picken, on the other hand, assumed the validity of Zhao Yansu's dating of the melodies (Picken 1956:158).

What concerns us here is Zhu's reason for criticizing these melodies. His basic objection was the use of the higher octave huangzhong as the cadencing pitch for the first six melodies written in gong mode. This is somewhat similar to the motive of earlier Song theorists in the setting up of four extra bells of the higher octave to the basic twelve in the bianzhong. Zhu pointed out that the cadencing pitch could not be higher than other degrees such as shang, jue, zhi or yu in the gong mode. He had obviously developed such an idea from a passage in the Yueji of the Liji that the use of such a mode would create a challenge to the authority of the Emperor, represented musically by the gong degree.

What Zhu had not pointed out here was the use of the higher octave huangzhong as the cadencing pitch in the shang mode for four of the remaining six melodies. If he were to apply the same theory of hierarchy of the five degrees in the Yueji to judge the moral effects of melodies written in this mode, he would have found them unacceptable, because the gong degree (wuyi) is inevitably positioned above the jue (taicou), which suggests an intrusion on the Emperor by the people.

In addition, the inclusion of huangzhong in the basic octave in these six melodies means the shang (ministers) occupies a more important position than the gong (Emperor), another contradiction to the spirit of the Yueji passage.

Apart from the problems arising from the nature of the modes and range of these melodies, Zhu Xi also questioned their appropriateness of being classified as antique ritual music based on the way words and pitches were juxtaposed: “If the music is written this way, with one word to a pitch, then every poem from ancient times could be sung. In this case, does one still need to regret that ancient music is lost?” (Yili jingzhuan tongjie 14.5b). Zhu went on, in the same source, to elaborate his own view of ancient music: he thought that each verse should have a main melody and a refrain, followed by the chanting of repeated words added to emphasize the mood of the poem. The strictly syllabic setting of these poems is obviously contradictory to the criteria of the idealized form of ancient music defined by Zhu.

The inclusion of twelve melodies related to District Drinking Ceremonies described in the Yili is itself an interpretation of the classic, no matter how uncomfortable Zhu Xi was about the moral and musical qualities of the transcriptions. He was in fact quite modest about his ability to judge these music scores and urged “musicians to comment on them” (Yili jingzhuan tongjie 14.5b).

The Achievements of the Song

The renewed interest of Confucianism in the Song dynasty not only led to the recognition of the didactic value of music after being seriously neglected in the Tang, but also a desire to put theories into practice. The realization of the need to re-adjust pitches and the frequent and open discussions on how they should be acquired, particularly during the reign of Emperor Renzong, were the bases for

other issues such as modal structure, range of melodies and structure of instruments. The moral connotations of the five degrees and the vague idea of harmonious sound in the Yueji of the Liji provided a common source of inspiration for theorists in the Northern Song dynasty, while the potential of the Zhouli in the design of musical instruments and modal sequences had a chance to further develop. Selected passages from the three ritual classics continued to be credited in proposals for changes in existing court performance tradition, including the highly controversial recommendations put forward by Wei Hanjin in his formation of the Dasheng Institute. The same applies to leading figures of the Southern Song dynasty, such as Cai Yuanding and Zhu Xi.

Indeed, Zhu Xi's somewhat uncertain and hence open-minded attitude towards the interpretation of the twelve melodies had initiated a continuous input from musicians of the later generations. These include Xiong Penglai from the Yuan dynasty; Li Wenchang, Liu Lian and Zhu Zaiyu from the Ming; the Qianlong Emperor, Nie Shuangjiang, Wang Shuangchi and Qiu Zhilu from the Qing (Yang 1952:193). Some of these later theorists simply accepted Zhu Xi's borrowed transcriptions as a standard form of ceremonial music for the rituals in the Yili, and were prepared to follow his style closely, while others merely made use of Zhu's status as a neo-Confucian scholar to put forward their own ideas on modes, pitches, melodic shapes or articulation of words. In any case, they shared one common attitude: no one was prepared to explore further possibilities to look for ritual melodies related to the Yili, nor indeed, the other two ritual classics. Zhu Xi's verdict of the loss of genuine ancient music was accepted with little query. From then on, many were satisfied with the re-working of Zhu's melodies to accommodate their own understanding of certain aspects of music theory.

Notes

- ¹ The Great Learning and the Doctrine of the Mean are two chapters taken from the Liji.
- ² In the Lulie zhi section of the Hanshu (21a.97), the width of a medium sized millet grain is taken as one tenth of an inch.
- ³ Now lost. Part of it is preserved in the Songshi (Song History) 131.3050-54 and the Introduction of Jiang Kui's Poetry Collection in the Sibu congkan edition.
- ⁴ Jiazhong is described as a yang mode in this source. The editors of the Songshi have corrected it to yin mode (131.3065).
- ⁵ For sources of Lulu xinshu, see Pian 1967:7. In addition, this work is also preserved in Huang Zhongxi's Songyuan xuean (Critical Anthology of Song and Yuan Confucianists).
- ⁶ See Bodde 1959:30-31.
- ⁷ Chapter 66 of the Xingli daquan (Summa of the Philosophers of Human Nature and of the Principle of Order) devotes a section to the discussion of rites and music by Song neo-Confucianist scholars.
- ⁸ This is a reference to Guoyu (Discourses of the States), ch.14, when the Duke was being stopped by the famous musician Shi Kuang from listening to an emotional qin piece heard near the River Pu, owing to its possible power to ruin a state.
- ⁹ For a complete list of Zhu Xi's work concerned with the Ritual Classics, see Kao 1986:312-15.
- ¹⁰ See also Pian 1967:9-10.

Chapter 5 The Ming Dynasty: Further Development of Song Theories

The Ming dynasty (1368-1644) has often been regarded as an age of decline in intellectual vigour. This is partly owing to the unprecedented enthusiasm for scholastic activities, and therefore achievements, in the Song dynasty, when there had been a desire to explore new ways to re-affirm Confucian teaching. It is also related to the political and military weakness after Zhu Yuanzhang became the first Ming Emperor (r.1368-98), indicated by the setting up of the capital at the southern city Nanjing. This unusual but inevitable choice has been seen as a bad omen, owing to the established tradition for any prospective long-ruling Chinese Emperors to control the Empire from the north. This was even worse because it came immediately after the military might of the Mongols, who had ruled China in the previous Yuan dynasty (1279-1368).

As a result, Zhu Yuanzhang or the Hongwu Emperor had to try exceedingly hard to eliminate any signs of weakness of imperial rule. An obvious way was to exert imperial authority over the system of administration, which led to the abolition of the offices of the Chief Ministers of State and staff associated with them in 1380 (Mote 1988:4). The result was a highly centralized form of government, with the Emperor leading a small number of officials around him, effectively diluting the strength of the civil service, which had largely been made up of neo-Confucian scholars.

These changes provided an environment for the gradual building up of power amongst eunuchs and corrupt officials. Indeed, the seemingly invincible power of these personalities had become a serious threat to scholar-officials who held to their principles, and sometimes to the security of the Emperor himself. This dark side of Ming history is well remembered amongst ordinary Chinese today, owing to the overwhelming popularity of operas and kung-fu films based on the subject.¹

Ming scholar-officials, therefore, had to work under the pressure of having to

compromise between supreme imperial power and their own consciences, nurtured by Classical learning. Such distractions put the whole question of opening more frontiers in Confucian learning into doubt. It has also been pointed out that the broadening of the candidature for civil service examinations and the inevitable simplification of their contents had further weakened the desire to explore Confucian ideals in depth (de Bary 1970:7).

The practical mind of Song neo-Confucians was able to survive the most drastic changes in political circumstances. Such resilience is due to the timeless quality of being able to provide new interpretations of the classics according to the need of a particular situation. This applies first to the Yuan dynasty, during which Song thoughts were valued as an effective tool in administration, particularly after 1313 (Gernet 1982: 438). In music, Xiong Penglai's (1246-1323) Sepu (Treatise on the Se) was a testimony to the recognition of Zhu Xi's musical examples in the Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries) while Liu Jin's (fl. c.1300) Lulu chengshu [The Complete Book of Pitches] borrowed directly from Cai Yuanding's theories on pitches in Lulu xinshu (A New Treatise on Regulating the Pitch Pipes).

With the administration back in the hands of Han Chinese in the Ming, it is natural to expect the rulers to honour the learning tradition of the century before the Mongolian invasion. A most noticeable contribution to this area was the publication of the anthology of Song dynasty philosophers, Xingli daquan (Summa of the Philosophers of Human Nature and of the Principle of Order), by Hu Guang (1370-1418) under the auspices of the Yongle Emperor (r.1403-24) in 1415, which was important enough for the Kangxi Emperor (r.1661-1722) of the Qing dynasty to order Li Guangdi (1642-1718) to abridge it as Xingli jingyi (Essential Ideas of the Nature and Principle) in 1715.

Yet neo-Confucian teaching in the Ming dynasty has its distinctive features. In contrast to Cheng Yi and Zhu Xi in the Song dynasty, there was a tendency to think that knowledge was not the only factor in the building up of human character; the cultivation of the mind was equally important (Chan 1970: 35). In other words, Ming scholars made a distinction between the external or objective elements of knowledge and the internal or subjective human quality. The early Ming scholar Wang Yangming (1472-1528), for example, shared Zhu Xi's aspiration for attaining sagehood through knowledge, yet found Zhu's insistence on excessive learning and the attempt to provide complicated explanations for the classics too restrictive. Instead, Wang advocated the search for instinctive knowledge through the individual's own good nature, supplemented with a return to the very basis of Confucian learning. This introspective form of self-cultivation had been preceded by a proliferation of the practice of sitting quietly and meditating amongst scholars such as Chen Xianzhang (1428-1500), Wu Yubi (1392-1469) and Lou Liang (fl.1520), who believed it was an essential step in the achievement of perfection in the human character (de Bary 1970: 14).

Wang Yangming's emphasis on the cultivation of the mind promoted a trend amongst scholars to revive philosophical ventures in the sixteenth century, largely owing to the expansion of urban culture (Gernet 1982:437). This is because Wang's humanistic idea of accepting the subjective views of individuals in different areas of learning had encouraged scholars to put forward their ideas more readily, no matter how unorthodox some of them might be. In music, such a diversity of thinking is most noticeable during the reign of the Jiajing Emperor (r.1521-66), when a number of scholars introduced their own versions of music theories, sometimes in contradiction to long established thinking of the past.

There is little doubt that both Zhu Xi and Cai Yuanding were taken seriously by Ming music scholars well into the sixteenth century. A number of influential

theorists followed Zhu's example in providing musical settings to illustrate their hypotheses on proper ways of writing music, some of them quoting his twelve settings for ceremonies in the Yili as a starting-point. Similarly, Cai's dual process of finding and verifying the fundamental pitches in his Lulu xinshu appealed, amongst others, to Han Bangqi (1479-1556), who wrote commentaries to Cai's book in the first two chapters of his Yuanluo zhiyue [Music Treatise by Yuanluo], while Li Wenchang (fl.1538-1545), further elaborated Cai's ideas in his Lulu xinshu buzhu [Additional Commentaries to A New Treatise on Regulating the Pitches] to make them more understandable to Ming readers. In this respect, few of them were as ambitious as Ni Fu, who wrote his Zhonglu tongkao [A Comprehensive Study of Pitches for Bells] in 1526 with the dual intention to clarify Cai's pitch theory and Zhu's modal structure of the twelve ritual melodies in the Yili jingzhuan tongjie.

Ironically, one of the most significant musical achievements in the Ming is related to the two Song dynasty masters. Cai Yuanding's idea of adding six pitches to compensate for the shortcomings of generating pitches through the Method of Triple Division was contested by Zhu Zaiyu (1536-1611), who provided a mathematical basis for the generation of the well-tempered scale. The criticism of Cai Yuanding extended to Zhu Xi, owing to the latter's endorsement of Cai's theory.

While the most important musical contribution by Zhu Xi could arguably be the twelve transcriptions of ritual music in his Yili jingzhuan tongjie, his precise definition of the roles of the other two ritual classics also had an important influence on Ming scholars. The Liji continued to be a useful source for the moral justification of the promotion of ceremonial music, or, the theoretical or practical ideas concerned with it. There was, in general, a much more positive view towards the Zhouli in the Ming dynasty. After all, the classic was the only authoritative ancient source on performance instructions such as performance venues, modes, instruments, and the number of sections within a piece of ritual music. Moreover, the stigma of the

classic associated with the disastrous reforms of the Song dynasty administrator Wang Anshi (1021-86) would have faded considerably after the intervening Yuan dynasty.

Early Ming Attempts in Improving Existing Musical Tradition

As a general introduction to the state of rites and music in the Ming dynasty, the editor of the Mingshi (Ming History), representing the retrospective views of the succeeding dynasty, quoted the famous Song Confucian scholar Ouyang Xiu (1007-72) in regretting that it was futile to try and restore the faultless tradition of the Xia (c.2000- c.1500 B.C.), Shang (c.1500-1066 B.C.) and Zhou (c.1066-221 B.C.) periods (Mingshi 47.1223). This serves to outline the overall attitude of Ming court musicians concerning how ceremonial music should be established. As a result, there was hardly any need for the first Emperor Hongwu (r.1368-98) to think of an excuse to adopt the music, and its title, of the preceding Yuan dynasty, collectively known as Dacheng, which was itself based on the music of the Dasheng Institute of the Song dynasty. Incidentally, the character cheng was taken from a passage in the Yueji (Liji 37.18a), having the connotation that an Emperor would establish his music after securing his mandate to rule (Yuanshi 68.1693). Above all, it has a reference to Confucius, who was honoured by Mencius as ji dacheng, that is, accumulating the wisdom of all former sages. The tradition of using a collective title for ceremonial music dated back at least to the reign of Emperor Taizong (627-50), when the title he (peace) was adopted.

The first encounter with ceremonial music by the Hongwu Emperor in 1368 was the disappointing standard of musicianship of the official Zhu Sheng, who apparently could not distinguish the relative positions of the five degrees, confusing the gong and zhi degrees, which were a fifth apart. The Emperor lamented that it was difficult to find a contemporary Confucian scholar who understood music theory,

and ordered a more eminent musician Leng Qian (c.1310-c.1371) to adjust the pitches and re-construct bells and sonorous stones, so that the music could match "its ancient tradition of harmonizing the sound of the people, distinguishing the role of mortals and immortals, and co-exist with heaven and earth without conflict" (Xu wenxian tongkao 103.3711). The Emperor's view of the role of music was in accordance with similar ideas in a number of passages in the Yueji (Liji 37.3a; 37.14a; 37.17a).

The Hongwu Emperor also managed to identify some the problems of borrowing Dacheng music of the preceding Yuan dynasty:

I think music was used in ancient times to prevent unreasonable greed of the people. Yet why is music of the later generations against this fundamental principle? Ancient poems are peaceful and solemn, while recent song texts are decadent and exaggerated. While ancient pitches are in harmony with the natural force (qi) of heaven and earth, those adopted by the later generations are entirely relying on the intelligence of human beings, and, as a result, bear no relation to the timing of heaven and the force of earth. This will create discords between the human voice and music instruments. Even if ancient poems and instruments are used, the music produced cannot be harmonious, and there is no way to avoid the disturbance of the hierarchy of the state. If percussion instruments are not played according to good conscience, and the songs not sung with a good mind, human beings and music cannot be effectively combined. As a result, how can music respond to heaven and earth, or spirits and immortals?

(Xu wenxian tongkao 103.3716)

The Emperor therefore held the usual nostalgic idea about ancient music, and was worried about the declining quality of music of his age, reflecting the general spirit of the Yueji in the Liji. He went a step further than the classic in pointing out two problems concerning the basic qualities of contemporary music: the texts had the tendency to mislead listeners, while the pitches had not been adjusted according to the criteria governed by nature. In his mind, the human factor was most crucial in the production of good music, even if proper instruments and song texts were available. The emphasis on the importance of getting the right pitches and the insistence that they had to match the forces of nature are remarkably similar to Cai Yuanding's ideas of checking the pitches by the practice of Watching for the Ethers.

While the Hongwu Emperor was on the whole active in the establishment of a musical system that would theoretically assist him in governing the country, there was little attempt by his successors during the following century or so to divert the necessary resources to revise ceremonial music established in the early Ming. In fact, the general introduction to the Music Section of the Mingshi does not even find it worthwhile to mention any musical activities during the reign of the immediate successors of the Hongwu Emperor, that is, the Jianwen (r.1398-1402), Yongle (r.1402-25), Hongqi (r.1424-25) and Xuande (r.1426-35) Emperors (Mingshi 61.1499-50).

The political and military achievements during this period should not, however, be underestimated, particularly after the Yongle Emperor ousted his brother, to ascend the throne in 1402. He managed to move the capital to Beijing in 1421, fulfilling the desire to rule the Empire from the north, and, above all, put the Ming armies in a better position to defend the country against the threat of the Eleuths of the north-west and the Tartars of the north-east. This is also the period of economic and cultural expansion, largely owing to the effort of the eunuch Zheng He, who made his famous seven voyages to India and the Persian Gulf during 1405-33 (Loewe 1990:40-41).

Nevertheless, the Mingshi makes a passing reference to ceremonial music during the administration of the Zhengtong (r.1435-49, 1457-64), Jingtai (r.1449-56), Chenghua (r.1464-87) and Hongzhi (r.1487-1505) Emperors. Music for dining and for sacrifices in these seventy years was described as "undignified" and "influenced by the lavish secular tradition", and, apparently, much to the disappointment of the officials Liu Xiang (fl.1449) and Hu Rui (fl.1449) (Mingshi 61.1499).

In spite of the critical attitude of the writers of the Mingshi, there were isolated attempts to rectify the shortcomings of ceremonial music, which, by then, had also included music at Confucian temples. The Zhengtong Emperor ordered Zhou

Hongmo (1419-91) of the Ritual Department to increase the number of dancers in sacrificial music at these temples from six to eight rows, and to position instruments such as the qin and se in the Terrace Ensemble (tangshang), and the sheng, big bells, zhu and yu in the Courtyard Ensemble (tangxia) (Xu wenxian tongkao 104.3722). These suggestions were rather superficial compared to the complicated means proposed by Song dynasty theorists for the determination of pitches and range for instruments. Yet the motive to produce music which had the edifying character of the kind discussed in the Liji is the same. The increase in the number of dancers raised the status of these rituals, and that of the celebrant, from that of a duke to an Emperor, while the insistence on the correct positioning of instruments brought the performances more in line with the tradition of ancient ceremonial music.

Notwithstanding the effort of the Zhengtong Emperor, the positioning of instruments and dancers continued to be a problem during the reign of the Jingtai Emperor (1449-56). The official Liu Xiang found it necessary put forward a plan similar to the one proposed by Zhou Hongmo to reform ceremonial music in 1449, because he shared the idea that it was improper not to distinguish instruments of the Terrace and Courtyard Ensembles, and to allow dancers to be mixed with musicians at random (Xu wenxian tongkao 104.3721).

The determination to use music as a tool to govern was reinforced by the ideas of Xue Xuan (1389-1464). He was a scholar-official at the Ritual Department who was partly responsible for the development of the neo-Confucian philosophy of Cheng Yi and Zhu Xi of principle and force into a coherent whole called "original nature" (Chan 1970:37). In Xue's mind, rites and music are two separate and yet closely related entities:

If the relationship between human beings is clearly defined, rites and music will prosper. Rites represent order (xu), while music is only a symbol for harmony (he). Take, for example, the relationship between Emperor and minister, father and son, older and younger brothers, husband and wife, and between friends. If each level of relationship is marked clearly, individuals will behave within their constraints. This is called order. Once order is

defined, rites can be established. There is harmony when the Emperor is benevolent, minister is respectful, father is kind, son is pious, older brother is amicable, younger brother is polite, husband is just, wife is obedient and friend is trustworthy. When these criteria are met, there will be music. Therefore human relationship is the basis for rites and music. On the other hand, if there is no order and no harmony in human relationship, how can rites and music prosper?

(Dushu lu 7.121)

This is remarkably similar to the passage in the Yueji which compares the relationship between Emperor and minister to that of heaven and earth, and broadly defines the quality capable of realizing this distinction as rites, while vaguely pointing out music as a compromise between these extremes (Liji 37.21b-22b). Xue's definition of the relationship between rites and music is, however, much more elaborate. Music is summed up as a human character called "harmony" which exists amongst individuals at all levels, from the Emperor to ordinary people, and, without this quality, there is no way to establish rites. The human character mentioned at each level is noble too; an individual can presumably achieve this through an understanding of his original nature, which will primarily involve the cultivation of the mind. This foreshadows the more mature humanistic philosophy of Wang Yangming in the sixteenth century.

Realizing the importance of pitches to music, Xue Xuan attempted to work out the relationship between lùlǚ, that is, six masculine and six feminine pitches: "The masculine pitches (lù) are so called because they are constructed according to laws which can be clearly stated, while the feminine pitches (lǚ) are so called because they have the quality to assist their masculine counterparts, so that masculine forces (qi) can be realized. The ability for heaven, earth and myriad things to unite depends on the ability of these forces to change." (Dushu lu 7.122) Xue therefore applied the same theory for rites and music in the classification of pitches. The six masculine pitches were considered to be more important than the six feminine pitches, yet the former could not exist without the help of the latter. While "harmony" is the

fundamental quality which builds up music and rites, force is the unifying element for pitches.

Xue Xuan's younger contemporaries did not seem to have contributed much to the development of theories on pitches. Yet it is fair to say that there continued to be a general understanding of the educational value of music discussed in the Liji, and the importance of establishing a correct system of pitches. Hu Juren (1434-84), who followed the famous philosopher Wu Yubi's example of living in isolation (1391-1469), chose to discuss the origin of pitches based on the ideas of Cai Yuanding and Zhu Xi put forward some 250 years before:

The heavenly and earthly sound of nature is the origin of pitches, measurement, weight and volume. The number related to these quantities is therefore also part of nature. The huangzhong pitch-pipe holds 1,200 millet grains because the ancient sages had, in the first instance, chosen a correct pitch successfully. They then had to make a pitch-pipe from the chosen pitch. After this process was completed, the pitch-pipe was filled with grains. The system of measurement, weight and volume is based on the number of millet grains in the pitch-pipe. There is no way that pitches are governed by the number of millet grains.

(Juyue lu 5.63)

Hu's somewhat dated ideas, however, must be interpreted in the context of a new era, when the seriousness of the mind took precedence over the acquisition of knowledge through intense academic work. He therefore believed the fixing of pitches was a subjective matter which involved activities of the mind, rather than an objective process which meant the complicated procedure of calculation and taking measurements, which, of course, also depended on the availability of grains of the right size. The emphasis on the subjectivity in the determination of the fundamental pitch gives the impression that the process can easily be transmitted from one generation to the next.

Hu Juren's ideas on pitches were shared by Li Wenli (fl.1480), an official at the court of the Chenghua Emperor (r.1464-87). In his Lulu yuansheng [The Origins of Pitches], part of it easily available in Xu wenxian tongkao (The Continuation of the

Comprehensive Study of Civilization), Li followed Cai Yuanding's ideas in the advocating of determining pitches through the dual process of choosing and verifying by means of Watching for the Ethers (Xu wenxian tongkao 106.3737-37). Li, however, deviated from Cai's theory by suggesting 3.9 inches instead of 9 inches for the length of the huangzhong pipe:

The higher the pitch, the smaller is the number related to it. The lower the pitch, the bigger is its corresponding number... The gong is the highest degree. When gong is adjusted to the pitch huangzhong, its corresponding number should be the smallest. That is why the gong degree represents the Emperor. Since there are more ministers than Emperors, the shang degree represents ministers. Since there are more people than ministers, the jue degree represents people. Since there are more affairs than people, the zhi degree represents affairs. Since there are more matters than affairs, the yu degree represents matter. These degrees exist because of the unlimited ability of the huangzhong to generate other pitches. In terms of force (qi), its most basic quality is highness and calmness. While highness generates lowliness, calmness generates movement. Life begins when there is movement. Therefore the most important qualities are highness and calmness. Numbers begin with one, and from it, two is generated. Likewise, four is generated from two, eight from four, sixteen from eight, thirty-two from sixteen and sixty-four from thirty two. These numbers all begin with one.

(Xu wenxian tongkao 106.3735)

Of course, Li did not invent the measurement of 3.9 inches for the length of the pipe for the fundamental pitch huangzhong. This figure was taken from the pre-Han dynasty text Lushi chunqiu (Master Lu's Spring and Autumn Annals) of 239 B.C. (5.3a), but had been ignored by most theorists since the Han dynasty (206 B.C. - 220 A.D.). Most of them preferred the more convenient integer 9, largely owing to the awkwardness in subjecting 3.9 to the Method of Triple Division in the generation of the remaining eleven pitches, which inevitably involved the multiplication of the factors $\frac{2}{3}$ or $\frac{4}{3}$. This was, apparently, one of the reasons why the editors of the Siku quanshu (Complete Collection of the Four Treasuries of Literature) in the late eighteenth century refused to include it in the imperial collection (Siku quanshu zongmu.330-31).

Li's logic of assigning the shortest measurement to the huangzhong pitch-pipe was also in contradiction to most Song dynasty theorists, who tended to regard this

pitch-pipe as the longest amongst the basic twelve. He, however, was not at odds with other Song theorists in suggesting that the first degree gong should carry the symbol of the Emperor, an idea developed from the passage in the Yueji (Liji 37.5a). While there was a tendency of Song scholars to emphasize the idea of dignity concerning the gong degree by matching it with the lowest pitch, Li ignored the musical aspect and argued on the basis of the number of Emperors, ministers, people, affairs and matter within the state, relating these numbers to the lengths of pitch-pipes. As a result, the pitch-pipe related to the gong degree was the shortest, while that corresponding to the yu degree was the longest.

While Xue Xuan regarded force (qi) as the origin of twelve basic pitches, Li Wenli went a step further in investigating its characteristics in relation to different pitch levels. Li's idea that the most fundamental form of force has the qualities of highness and calmness would, theoretically, produce a basic huangzhong pitch, and hence a most important gong degree, of the same quality. The gong should then be the highest and softest amongst the five degrees, if these qualities of force relate to frequency and amplitude in the modern scientific sense. By the same token, the fifth degree yu would be the lowest and loudest. Li had therefore complicated the matter by introducing the issue of dynamics to the five degrees. This should not, however, be dismissed entirely. His theory was based on the fact that there were fewer Emperors than ministers or people, and the gong degree, which represented the Emperor, should be the softest amongst the five degrees.

Li also illustrated the origin of pitches mathematically by using the series $2^0, 2^1, 2^2, 2^3, 2^4, 2^5, 2^6 \dots$. These numbers could not have meant frequencies, since he assigned the number "1" to the fundamental pitch huangzhong. If his idea of huangzhong as the shortest pitch-pipe were to hold, each subsequent set of numbers would be related to the length of a pitch-pipe, which is gradually increasing in length, and therefore becoming lower in frequency. Li Wenli's interest in Cai Yuanding was

to be taken up by other theorists, particularly in the early sixteenth century, when Wang Yangming, amongst others, put forward their theories of music with reference to the Song master's Lulu xinshu (A New Treatise on Regulating the Pitch Pipes).

The experiments to improve ceremonial music were to become more sophisticated during the reign of the Hongzhi Emperor (1487-1505), as officials of the Ritual Department attempted to use pure gold to cast bells, and top quality jade to carve sonorous stones. This was hardly a cost-effective venture, and was soon to be contested by a high-ranking official Ma Wensheng, who, in 1502, pointed out that in spite of the cost, these precious instruments might not necessarily blend with other instruments made of conventional material (Xu wenxian tongkao 104.3723). In any case, officials at the Ritual Department were entrusted with the task of looking for outstanding musicians to give advice on pitches and the construction of instruments. The results were hardly encouraging, because no distinct improvement was to be made in the following six years (Mingshi 61.1508-09).

Wang Yangming and the Force of Mind

The interest shown by Wang Yangming (1472-1528) in music had a great impact on scholars in the sixteenth century, particularly during the reign of the Jiajing Emperor (r.1521-66). He was, after all, one of the most influential Confucian scholars of the Ming, who had gone through difficult times with powerful eunuchs, particularly in 1508, when he was banished to Guizhou, before his promotion to a high position in the Military Department. The ability to make a successful career under such difficult circumstances must have made it easier for him to promote his own brand of Confucian thinking, which, in short, comprises the realization of one's own nature (xin) and the extension of one's innate knowledge (liangzhi) (de Bary 1970:10).

Wang did not perceive music as a form of entertainment, but as one of the arts (yi) that was closely associated with human righteousness (yi) (Ching 1976:99). This narrowing of the definition of music, which leads to an emphasis on its educational value, is essentially a re-statement of the central idea in the Yueji. Yet in Wang's mind, the didactic process of music largely depends on the extent of self-cultivation on the part of the listeners; it is of secondary importance to investigate and restore what had traditionally been regarded as the lost ancient musical tradition:

The nine movements of Shao were a piece of Emperor Shun's theatrical music and the nine variations of Wu were a piece of King Wu's theatrical music. The actual facts in the lives of these sages were brilliantly exhibited in the music. Therefore when a person of virtue [Confucius] heard it, he knew wherein Shao was perfectly good and perfectly beautiful and wherein Wu was perfectly beautiful but not perfectly good. However, when later generations composed music they merely wrote some verses for certain tunes without any relation to social mores or customs at all. How could they influence people and improve customs? If we want to return people's customs to simplicity and purity, we must take the theatrical music of today, eliminate all the depraved and licentious words and tunes, and keep only the stories about loyal ministers and filial sons, so that everyone among the simple folk can easily understand, and their innate knowledge can unconsciously be stimulated into operation. Then it will do some good to mores and ancient music can gradually be restored.

(Wang Wencheng Gong quanshu 3.148;
Chan 1963: 233)

In spite of the reference to Confucius, Wang's classification of the two pieces of ancient music Shao and Wu as theatrical music of the sage kings Shun and Wu was against the main current of Confucian thinking. There is, of course, a strong implication that these pieces were entertainment music, especially after the rapid development of dramatic art in the previous Yuan dynasty (1279-1368). Such a downgrading of the two pieces is contradictory to the Han dynasty definitions of Shao as a perfect example of civil dance (wenwu) and Wu as an exemplary work of military dance (wuwu), which had, until the sixteenth century, seldom been challenged, although there was little indication that the tradition for performing these old pieces had continued after the death of Confucius.

In any case, Wang was not worried about the nature of these examples of ancient music; he was more concerned with the moral conduct of the listeners. To him, a perfect character like Confucius was able to distinguish the slight difference in quality between the music Shao and Wu, while ordinary people would need to cultivate their minds, by listening to music with a moral value. The adoption of improved contemporary theatrical music as a substitute for ancient music which had long been lost was at least an attainable, if not a perfect solution to generations of futile effort in re-creating the past tradition.

While the Yueji emphasizes the educational value of music, Wang Yangming went further in giving practical hints on how its desired effects on a person could be achieved through singing:

One should ensure there is in possession a good appearance and a steady breath. The voice should be clear, and in the right pitches and modes. There is no need to be aggressively fast, nor violently loud, nor timidly slow. If this is practised frequently, one should be able to cultivate a peaceful and harmonious force within one's mind.

(Wang Wencheng Gong quanshu 2.128)

The provision of these simple steps which could theoretically be achievable by anyone who has perseverance shows Wang's theory of the Unity of Knowledge and Practice (zhixing he'yi) at work. To him, the mere understanding of a problem was not enough; his ultimate desire was to find a viable solution.

Wang also realized the importance of having a correct standard of pitches for the performance of music, which could only be established by someone who managed to cultivate himself to the right standard:

The fundamental pitches (yuansheng) can be sought only in your own mind... In government, the ancients first nourished the people's mind to the point of peace and harmony and then instituted musical systems. Suppose we sing songs in this place. If your mind and disposition are harmonious and peaceful, the listeners are naturally pleased, happy, and aroused. This is the beginning of fundamental pitches. The Shangshu (Book of History) says, 'Poetry is the expression of the will.' The will is the foundation of music. It further says, 'Singing is the prolongation of that expression.' Singing is the foundation of instituting musical systems. And it goes on to say, 'The notes accompany that prolongation and they are harmonized by the pitch pipes.'

The purpose of pitch pipes is simply to harmonize the notes. To harmonize the notes is the foundation of making pitch pipes. When did the ancients seek the fundamental pitches outside?

(Wang Wencheng Gong quanshu 3.148;
Chan 1963:233-34)

Wang believed the human mind was the ultimate source for the establishment of fundamental pitches. In order to discover these pitches, one would first need to attain the state of peace and harmony in the mind, matching the same supreme virtuous quality of the ancient sages. The second step was to translate this mental quality into music through singing. The fundamental pitches would be there once these two processes were completed, and there was no need to look for non-human devices such as millet grains, a process which he described vividly as "like dredging the moon from the bottom of the water" (Wang Wencheng Gong quanshu 3.148 ; Chan 1963:233).

Indeed, Wang was to use the same metaphor in criticizing Cai Yuanding's method of verifying pitches by means of houqi (Watching for the Ethers):

In instituting musical systems, the ancients possessed in themselves the substances of equilibrium and harmony. In reality, one's equilibrium and harmony correspond to the material force (qi) of heaven and earth. To wait for the response of material force to weather (houqi) or to harmonize pitches with those uttered by the male and female phoenix is no more than to test whether one's material force is harmonious or not. This is done after the pitch pipes are made; we do not test first and then make them.

(Wang Wencheng Gong quanshu 3.148 ;
Chan 1963:234)

Wang's idea that music originated from the attainment of a perfect state of the mind was further developed by the introduction of material force (qi) as a common quality linking the individual to heaven and earth. This is very much in line with his philosophical concept of the perfect individual being part of the union between heaven, earth and myriad things (de Bary 1970:18). He thought ancient sages had achieved harmony with the force of heaven and earth before they began to compose music. An individual of his period, or indeed other periods, could therefore capture

the essence of ancient music by setting his mind to match the force of heaven and earth. He thought that once ancient music was restored, a system of correct pitches would be established at the same time. His main objection to Cai's theory of Watching for the Ethers was Cai's assumption that there could not be a proper system of music before pitches were established.

Besides dismissing the need to verify pitches put forward by Cai Yuanding in his Lulu xinshu, Wang Yangming also challenged the scientific basis of Cai's way of implementing the practice of Watching for the Ethers:

According to the book (Lulu xinshu), usually a series of pitch pipes is used and we then wait for the response of material force (qi) to the weather. If the ashes in a pipe fly off at the proper time of its corresponding month, it will show that material force responds to the proper weather and the pitch will therefore be correct. For example, when the ashes fly off during the first two-hour period of the winter solstice, the fundamental pitch (huangzhong) is correct. But at the winter solstice the ashes may fly off just a moment earlier or later. How can we know to what moment of the winter solstice the pipe should correspond? We must first understand in our mind what the exact moment of winter solstice should be. This is where the book does not make sense. The student must first direct his effort to acquiring the fundamentals of ceremonies and music.

(Wang Wencheng Gong quanshu 1.71 ;
Chan 1963:234)

Although Wang accepted the idea of pitch-pipes reacting to force of heaven and earth, he had reservations about Cai's experiment, owing to the involvement of a number of pitch-pipes of lengths close to one another. He had obviously gone further than Cai in the investigation of the nature of the force of heaven and earth. While Cai's concept of the force was one that changed according to the month, as outlined in the chapter Monthly Commandments in the Liji, Wang took the possible subtle changes in the magnitude of the force within a few hours in a month into consideration. He therefore did not agree that such a verification process could be performed entirely on an objective basis; the human mind had to play a part in the determination of the exact moment the huangzhong pipe should react.

Wang Yangming's recognition of the close relationship between the human mind and music was shared by Li Mengyang (1473-1529), an official in the Ministry of Revenue, who became a close friend of Wang around 1503. Li highlighted the importance of music in the formation of a virtuous character by distinguishing three different levels of perception of sound:

Animals know what sound (sheng) means but do not understand pitches. Ordinary people know what pitches (yin) mean but do not understand music (yue). One can only understand music after acquiring a virtuous character. The master thinks sound is a straightforward matter, and is therefore simple and coarse. Pitches are more complicated, because they represent the first step in the organization of sound. Music, on the other hand, is governed by harmonious organization of pitches. For example, one can draw the attention of a chicken by making the sound zhuo zhuo, that of a pig by luo luo, a horse or an ass by duo duo, a cat by miao, and a bird by wei. The animals respond to the sound (sheng) because they know what sound means to them. The present songs of the ordinary people are extremely popular. Almost everybody knows them, because they have the ability to distinguish fast and slow tempi, high and low pitches, and strong and weak beats. This mass of people know what pitches (yin) mean to them. If you ask them whether the beginning and ending pitches of a song is masculine or feminine, or whether the mode is gong or shang, these people do not know the answers. Therefore I think only virtuous people understand music (yue).

(Kongtong zi 1.5a)

Li Mengyang's differentiation of sound into different levels of sophistication in the order of sound (sheng), pitches (yin) and music (yue) is based on an idea expressed in the Yueji (Liji 37.8a), where it criticizes the failure to recognize the moral significance of music in derogatory terms. Li, on the other hand, held a more balanced view by accepting the fact that there were different levels of response to sound. He broadly divided these into two categories: that of animals which respond to sound of the crudest nature, and that of human beings who listen to music. There is nothing that animals can do to raise their standard of appreciation beyond the most fundamental level.

While the Yueji emphasizes the importance of listening to music with a high moral value, Li took it for granted that ordinary people as well as the educated class listened to the same kind of popular music. It is therefore possible for human beings

to progress from the basic level of distinguishing the speed, melodic shape and rhythm of a piece to an advanced level of understanding absolute pitches and modes. Li thought a person with a cultivated mind would get more out of listening to the same piece of music than an ordinary character. His liberal attitude towards the choice of music was in a way similar to Wang Yangming's idea that something could be made out of theatrical music. In Li's mind, the internal human quality of sensation matters more than external non-human factors such as music.

Deviations from Wang Yangming's Subjective Approach

Liao Daonan (fl.1530)

In spite of the efforts of Wang Yangming and Li Mengyang in proving that it was unnecessary to rely on what was thought to be the ancient tradition of music, there was a serious attempt by the official Liao Daonan to revive the practice in 1530 during the reign of the Jiajing Emperor (1521-66) (Xu wenxian tongkao 107.3745). A more comprehensive account of Liao's proposal is recorded in Zhang Xuan's (1558-1641) Xiyuan wenjian lu [A Collection of Notes of Xiyuan], which covers historical writings of the Hongwu to Wanli Emperors (1368-1620). Liao's method to restore the ancient tradition sounds very simple: "It is necessary to look at ceremonial music of the present time and eliminate all foreign elements. After all licentious sound which interferes with ceremonial music is eliminated, the moral standard and customs of the people will improve. Ceremonial music will then be restored." (Xiyuan wenjian lu 51.6a) Liao's condemnation of foreign music is very similar to the criticism of extravagant music of the States of Zheng and Wei in the Yueji (Liji 38.20b-21b).

Notwithstanding the difficulty of his task, Liao believed there were proper academic ways leading to the discovery of ancient music:

If one looks through all available books, one can still find many writings on music. The fundamentals of music are recorded in the Yueji, while its detail

is given in the Yili. The ancient tradition of music had been lost since the Zhou period, yet Sima Qian had written his treatise on pitches and calendar while Ban Gu developed his idea to put music in the context of heaven, earth and human beings. Cai Yuanding's book on pitches was endorsed by Zhu Xi, and Chen Yang's treatise of music contains music systems of past and present. If one wants to discover the fundamental pitches (yuansheng), one ought to look at the classics. The Yijing says: "Thunder originates from the earth, and it provides a stimulus for ancient sage kings to compose music in order to promote virtue." Thunder carries the fundamental force (yuanqi) of heaven and earth which can bring life to myriad things. Therefore, thunder is the manifestation of fundamental force, while music is created by fundamental pitches.

(Xiyuan wenjian lu 51.2b)

Liao's emphasis on extensive consultation of books on music is contradictory to the prevailing theory of attaining virtue, and hence the essence of music, through the cultivation of the mind. Apart from the two ritual classics and Han dynasty histories, the reference to the general music treatise by Chen Yang and the more specialized Lulu xinshu by Cai Yuanding shows Liao was only willing to venture to the end of the Song dynasty in this process. His failure to mention any Ming dynasty music sources could have been a deliberate attack on the disappointing achievements of his immediate predecessors in the area.

In spite of his conservative mind, Liao had made one contribution to the debate on the origin of pitches. He was one of the first theorists to make use of the Yijing (Book of Changes) to define the natural phenomenon of thunder as the origin of the fundamental force of heaven and earth (yuanqi), the latter being the energy believed to be the origin of fundamental pitches (yuansheng), and eventually music.

The process from which music is generated from the fundamental pitches is, in Liao's own words, rather complicated:

Fundamental force (yuanqi) generates harmonious force (heqi), while fundamental pitches (yuansheng) generate harmonious pitches (hesheng). When pitches are harmonious, the force will also be harmonious. If this is the case, the shape (xing) will also be harmonious. Once this stage is reached, heaven and earth will be in harmony.

(Xiyuan wenjian lu 51.1b)

The basic Han dynasty concept that force (qi) was the energy behind fundamental pitches (yuansheng) had been exploited by a number of Song and Ming theorists, including Cai Yuanding and Wang Yangming, who had different interpretations of the origin of force. Owing to his endorsement of Cai, Liao's force (qi) is more akin to Cai's than Wang's, that is, the force of nature rather than the subjective kind created within one's mind. Liao's identification of harmonious force (heqi) as the higher level of energy behind harmonious pitches (hesheng) was based on the theory, which he had pointed out in the same passage, that fundamental force (yuanqi) could be refined if the eight sources of instrumental timbres were available. In other words, he held the traditional view that correct pitches alone could not produce music with the desired moral effect.

Zhang E (fl.1530)

In response to Liao's request for the restoration of ancient music, the official Zhang E suggested, almost in the same way that Cai Yuanding might have put it, that the fundamental pitches (yuansheng) originated from the force (qi) created by the interaction between heaven and earth, which could be determined by first subjecting a number of pitch-pipes with a difference of $\frac{1}{10}$ inch in length to the experiment of Watching for the Ethers at the beginning of the Winter Solstice for the huangzhong (Mingshi 61.1510-11).

Zhang was, however, not too concerned with the six additional bian pitches proposed by Cai for the compensation of the shortcomings of calculating the other eleven pitches by means of the Method of Triple Division, as long as there were, as Song theorists such as Hu Yuan had suggested, four additional higher octave pitches of huangzhong, dalü, taicou and jiazhong in the bianzhong to enable the gong to remain lower than shang and jue degrees in different transpositions (Mingshi

61.1511). In this respect, he had followed the Song interpretations of the moral effects of the five degrees based on the Yueji strictly.

Unlike theorists of the Song dynasty, Zhang obviously did not find it politically insensitive to draw inspiration from the Zhouli when it came to the actual content and technicalities of ritual music. He therefore proposed the music for Welcoming the Spirits (jiangshen) as follows:

For sacrifices to heaven at winter solstice at the Round Hill, huanzhong should be taken as the cadencing pitch for the gong mode, huangzhong for the jue mode, taicou for the zhi mode, and guxian for the yu mode. This sequence produces three consecutive modes based on yang pitches. The very idea of sequence is important, because it represents the heavenly way. For sacrifices to earth at summer solstice at the Square Hill, hanzhong should be taken as the cadencing pitch for the gong mode, jiazhong for the jue mode, guxian for the zhi mode, and nanlu for the yu mode. This sequence produces three modes generated by yin pitches. The idea of generation signifies the achievement of the earth. For sacrifices to ancestral temples, huangzhong should be taken as the cadencing pitch for the gong mode, dalü for the jue mode, taicou for the zhi mode, and jiazhong for the yu mode. This sequence produces three modes which are based on a combination of alternating masculine and feminine pitches. The idea of combination represents human relationship.

(Mingshi 61.1512)

At a glance, this description is remarkably similar to the passage in the Zhouli about the sacrifices to heaven, earth and ancestors (Zhouli 22.13b-14a). Yet a more careful examination reveals that Zhang had replaced two of the modes in the original classic, namely the jue mode cadencing with the pitch taicou in the earthly sacrifices and the yu mode cadencing with yingzhong in the human sacrifices, both by modes cadencing in the pitch jiazhong. He had done so in order to introduce his own moral judgement on each set of modes. He was convinced that there should be three yang modes in the heavenly sacrifices and three yin modes in the earthly sacrifices, so that the idea of heaven being masculine and earth feminine could be upheld. Although the introduction of the mode related to jiazhong in the human sacrifices does not change the gender of the modes in the original Zhouli passage, the new sequence of modes in the order of huangzhong, dalü, taicou and jiazhong covers the first four pitches in a consecutive manner, making it easier for Zhang E to believe that he had

fulfilled the purpose of creating a harmonious human relationship. Zhang's modal structure for the music of Ushering Out the Spirits (jianshen) followed the description of the Six Ancient Pieces in the Zhouli (22.8a-11a) closely.

Liao Daonan's suggestion for discovering ancient music through existing music treatises and Zhang E's more detailed account of determining pitches and modes through the practice of Watching for the Ethers and the classics demonstrate a common desire to tackle the issue through objective means. Yet by altering the text of the Zhouli to facilitate his interpretation of the moral effect of the modes, Zhang had unwittingly fallen into the trap of being subjective in the handling of ceremonial music. His divergence from the classic in the presentation of modes for music in ritual sacrifices is not far away from Wang Yangming's determination of pitches in the mind. In any case, Zhang E was to become a pioneer of a trend in the remaining years of the Ming dynasty of making alterations to ritual texts, particularly the Zhouli, in proposing ways to increase the moral value of music. Zhu Zaiyu, for example, was to discuss his own interpretation of modes given in the Zhouli at length in his Yuexue xinshuo (A History of Music).

Han Bangqi (1479-1556)

In many ways, Zhang E's music theories are reflected in the extended work Yuanluo zhiyue (Yuanluo's Book of Music) completed by Han Bangqi (1479-1556) in 1548, in spite of the fact that part of it was written, according to his pupil Yang Jisheng, during the later years of the Hongzhi Emperor (r.1487-1505) (Yuanluo zhiyue Preface). Han was an official who had served both the Zhengtong and Jiajing Emperors, and had gone through vigorous political challenges by corrupt officials and eunuchs before being promoted to senior positions at the Hanlin Academy in 1527, and later at the Ministries of Justice and Personnel.

Although the editors of the Siku quanshu were very complimentary about Han's achievement as a scholar in all areas (Siku quanshu zongmu .324), Han only claimed to have the desire but not the ability to write about music in the Introduction to the book. He went on to point out that both the Zhouli and the Liji had their shortcomings in recording the essence of ancient music, the former being too direct while the latter was too morally oriented. He concluded, in the same passage, that ancient music could be re-established "naturally from within the heart, so that the five degrees, normal and bian pitches, twelve fundamental pitches and those of the higher octave, yin and yang pitches" were in the right order.

Indeed, the first two chapters of the Yuanluo zhiyue were written in 1504 precisely to solve the puzzle of how the fundamental pitches could be determined. Collectively, they were known as Lulu zhijie [A Direct Explanation of Pitches], taking the first two characters of the title from Cai Yuanding's Lulu xinshu (Lulu zhijie Preface). Han understood the ways adopted by Ming theorists in the establishment of the fundamental pitches were different from ancient practices:

The ancient sages discovered the fundamental pitches (yuansheng) before they verified them by waiting for the arrival of fundamental force (yuanqi). The present trend, however, is to wait for the arrival of fundamental force to determine the fundamental pitches. Pitches respond to force (qi), and can give rise to a correct system of length, volume and weight. Pitches also govern the weight, thickness, size, number and length of instruments. Therefore, music instruments represent the body of heaven and earth physically and hence can respond to them when used properly.

(Yuanluo zhiyue 1.2b)

He obviously implied that the adoption of the Song practice of determining pitches by the method of Watching for the Ethers was merely a remedy for the more superior lost system devised by legendary rulers. While there had been a tradition to accept the idea from the classic Shangshu (Book of Documents) that measurements and weights were governed by pitches, Han Bangqi attempted to apply the concept more exclusively to the physical appearance of musical instruments. Notwithstanding the fact that he did not take the objective factor of instrumental

timbre into consideration, this is still a convenient way of visualizing something abstract like pitches.

Han went on to describe his method of determining the fundamental huangzhong by the method of Watching for the Ethers:

It is necessary to take a large number of bamboo pipes and cut them into the right lengths. Each pipe must be 0.346 inch in diameter and 1.036 inch in circumference. Pitches are not based on the number of millet grains, yet is there a better way to restore the true pitches, bearing in mind that ancient music has been lost? In determining the huangzhong, one should start by filling a bamboo pipe with ninety millet grains and treat its length as nine inches. The next step is to follow Cai Yuanding in cutting a number of bamboo pipes in steps of 0.1, 0.05 or 0.01 inch longer than the huangzhong, making a total of nine. Likewise, prepare the same number of pipes in steps of 0.1, 0.05 or 0.01 inch shorter than the huangzhong. There is bound to be a suitable pitch-pipe amongst them.

(Yuanluo zhiyue 1.3b-4a)

Han deviated from Cai Yuanding by suggesting the huangzhong should first be prepared by filling a bamboo pipe with ninety millet grains, instead of relying on the subjective musical sense of a virtuous character. In this respect, Han resembled earlier Song theorists such as Li Zhao and Hu Yuan. In addition, the technical details involved were different. While Cai's hypothetical pitch-pipe was 0.9 inch in diameter, Han's equivalent measurement was 0.136 inch greater, and therefore very close to the diameter of Hu Yuan's pitch-pipe, which measured 1.038 inch (Huangyou xinyue tuji 1.6b-7b). Han's suggestion of using eighteen additional pitch-pipes for the acoustic experiment hardly had a scientific basis, if he were actually serious about the minute difference of 0.01 inch in length between adjacent pipes. Even taken to the extremes, pipes of 8.91, 9 or 9.09 inches would emit virtually the same pitch. After all, these pipes are nearly impossible to make, even with modern technology. A possible explanation for Han allowing himself to limit the difference in length to 0.01 inch in the construction of pitch-pipes is that he had confidence that the original huangzhong pipe, worked out according to ninety millet grains, was correct. The process of Watching for the Ethers was merely for verification.

Advocates of the practice of Watching for the Ethers had hitherto been careful in emphasizing the need to conduct the test in a room free from draft, guaranteed by building two extra layers of walls with sealed doors at opposite ends. Han Bangqi, however, made one important point concerning the quality of soil, foreshadowing the mind of a modern environmentalist:

The experiment should not take place in the city, because the soil in contact with the pitch-pipes would have been tampered with several times. As a result, it will be mixed with ashes, excretions and debris. Such kind of soil is far from the original quality provided by nature. One should go to the wilderness where no one has lived and look for yellow soil. Even so, it is necessary to remove a layer of soil of two or three foot deep, in order to ensure that there is no foreign element. The digging should not be too deep, because it may harm the proper force (zhengqi). This is the way to watch for the ethers.

(Yuanluo zhiyue 1.4a-4b)

From the care that Han had taken to preserve the original quality of the soil so that proper force (zhengqi) would not be disturbed, it is fair to say that his idea of force (qi), the energy needed to produce the fundamental pitch huangzhong, was strictly a quality belonging to nature. This extra precaution ensured human influence in the dual process of determining and verifying the fundamental pitch was down to a minimum. It also enlarged the gap between Han Bangqi and the subjective approach taken by Wang Yangming and his followers.

Han endorsed Cai Yuanding's idea of first determining the other eleven pitches of the basic octave by the Method of Triple Division and then extending the calculation to include six higher bian pitches, making a total of eighteen pitches. Like Cai, Han's argument was partly based on the status of the fundamental pitch huangzhong being equal to that of the Emperor, echoing the moral association of the five degrees within the state described in the Yueji, and partly getting at the musical deficiency of the existing system of calculating pitches (Yuanluo zhiyue 2.26b-28a).

Once the relationship between the pitch huangzhong and the gong degree was fixed, Han was able to present the moral significance of the five degrees diagrammatically:

Gong	Shang	Jue	Zhi	Yu
Emperor	Ministers	People	Affairs	Matter
Earth	Metal	Wood	Fire	Water
Trust	Righteousness	Love	Propriety	Wisdom
Thought	Speech	Appearance	Eyesight	Hearing
Lowest	Second Lowest	Neither Low Nor High	Second Highest	Highest

(Yuanluo zhiyue 1.11a)

In Han's mind, a correct huangzhong pitch determined by objective means would lead to a clear definition of the hierarchy of the state, a perfect balance of the Five Elements, a correct distribution of the Five Human Virtues, an orderly arrangement of Five Senses, and above all, a clear demarcation of the musical quality of the Five Degrees.

Han had given due consideration to the moral definitions of the five degrees before he put forward a flexible design concerning the number of pieces in the bianzhong and bianqing: "Ancient and contemporary theorists on bells had so far suggested each set of instruments should comprise twelve, sixteen or twenty-four pieces. It is unnecessary to debate on the number, so long as the sound is harmonious, and that the Emperor, ministers and people behave according to the rules of propriety." (Yuanluo zhiyue 9.10b-11a) In other words, he agreed with the Song theorist Hu Yuan that the gong should be kept lower than shang and jue degrees so as to maintain the dignity of the ruler. He concluded that it was appropriate for the

largest set to have twenty-four pieces, including twelve from the basic octave and twelve from the higher octave; the intermediate set to have sixteen pieces, including twelve from the basic octave and four additional higher octave pitches; the smallest set to have fourteen pieces, including seven pitches from the basic octave corresponding to the seven degrees and their corresponding pitches an octave higher (Yuanluo zhiyue 9.9a).

It is almost a natural consequence that a scholar with the status of Han Bangqi would conduct an in-depth study into the intricacies of music theory in a treatise like Yuanluo zhiyue, which was primarily aiming at restoring ancient music practice. In this respect, the passage concerning the ritual music for Welcoming the Spirits (jiangshen) in the ritual classic Zhouli (Rites of the Zhou Dynasty) (22.13b-14a) was an obvious choice, owing to the precision of the original text, and hence the possibility of putting it into practice. Indeed, Han devoted most of Chapter 8 of this treatise to the interpretation of the passage.

Han's approach was much more thorough than Zhang E's earlier interpretation of the modes outlined in the passage. Han defined the six renditions (bian) in the music for the arrival of heavenly spirits at the Round Hill as two in the gong mode of huanzhong (jiazhong), two in the jue mode of huangzhong, one in the zhi mode of taicou and one in the yu mode of guxian (Yuanluo zhiyue 8.1b). These four pitch-modes, of course, correspond to pitch names mentioned in the classic. Yet Han went still further to provide a detailed plan for the modal structure of each of these renditions. He had the idea that they all began with a sub-section in yu degree and ended with a sub-section in gong degree. His interpretation of "huanzhong (jiazhong) is gong" in the classic was to "begin with the yu of huangzhong's gong, and therefore the yu of jiazhong's yu", and in the following order:

Beginning	nanlu
First Sub-section	guxian
Second Sub-section	yingzhong
Third Sub-section	ruibin
Fourth Sub-section	dalü
Fifth Sub-section	yize
Sixth Sub-section	jiazhong
Seventh Sub-section	wuyi
Eighth Sub-section	zhonglü
Ending	huangzhong (<u>bian</u>)

(Yuanluo zhiyue 8.2a)

Han pointed out that the music began with the sixth degree yu and led to the sixth sub-section beginning with jiazhong, the pitch of the entire rendition in gong mode, and, as a result, fulfilling the moral duty of receiving the heavenly spirits (Yuanluo zhiyue 8.4a-4b). The piece was, of course, the Yunmen referred to in the Zhouli. The provision of detailed pitch names for each sub-sections in renditions "huangzhong is jue, taicou is zhi and guxian is yu" serves no purpose in clarifying the purpose of having six renditions in the classic, a point raised by the editors of the Siku quanshu (Siku quanshu zongmu 323-24).

Similarly, Han defined the eight renditions (bian) in the music for the arrival of earthly spirits at the Square Hill as two in the gong mode of linzhong, two in the jue mode of taicou, two in the zhi mode of guxian and two in the yu mode of nanlu, corresponding to the pitch-modes outlined in the ritual classic. He went on to provide a detailed plan for each of these renditions which were supposed to represent the ancient piece Xianchi collectively. Again, each sub-section began in yu and

ended in gong. The passage "Hanzhong (linzhong) is gong" in the Zhouli was interpreted as "to begin with the yu of taicou's gong", namely yingzhong, and in the following order:

Beginning	<u>yingzhong</u>
First Sub-section	<u>ruibin</u>
Second Sub-section	<u>dalü</u> (higher octave)
Third Sub-section	<u>yize</u>
Fourth Sub-section	<u>jiazhong</u>
Fifth Sub-section	<u>wuyi</u>
Sixth Sub-section	<u>zhonglü</u>
Seventh Sub-section	<u>huangzhong</u> (high <u>bian</u>)
Eighth Sub-section	<u>linzhong</u>
Ninth Sub-section	<u>taicou</u>
Tenth Sub-section	<u>nanlü</u>
Eleventh Sub-section	<u>guxian</u>
Twelfth Sub-section	<u>nanlü</u>
Ending	<u>taicou</u>

(Yuanluo zhiyue 8.9b)

In order to receive the earthly spirits, Han believed the music had to begin with the sixth degree yu of the fifth degree zhi of linzhong, and reaching the eighth sub-section beginning with linzhong (Yuanluo zhiyue 8,12a). This is a convenient way of meeting the standard of eight bian in the right pitch specified in the Zhouli.

For the nine renditions (bian) in the music for the arrival of human spirits at the Ancestral Temple, Han designated three in the gong mode of huangzhong, two in the jue mode of dalü, two in the zhi mode of taicou, and two in the yu mode of

yingzhong, corresponding to those prescribed in the Zhouli (Yuanluo zhiyue 8.18b-19b). Like the sacrificial music for heavenly and earthly spirits, each of these renditions began with a sub-section in yu and concluded with a sub-section in gong. Zhouli's passage "huangzhong is gong" was interpreted as "to begin with the yu of huangzhong's gong", and therefore in the following order:

Beginning	nanlu
First Sub-section	guxian
Second Sub-section	yingzhong
Third Sub-section	ruibin
Fourth Sub-section	dalü
Fifth Sub-section	yize
Sixth Sub-section	jiazhong
Seventh Sub-section	wuyi
Eighth Sub-section	zhonglü
Ninth Sub-section	huangzhong (<u>bian</u>)

(Yuanluo zhiyue 8.25b)

When the music, entitled Jiude and Jiushao, reached the ninth sub-section, it would have the desired quality to receive human spirits (Yuanluo zhiyue 8.21b).

Han Bangqi's primary concern was to ensure the modes mentioned in the Zhouli passage could be realized into something practical. Yet this would have been hardly possible if there were no backing of a readily acceptable theory. Han's plan is very simple: the mode of each of the sub-sections is generated from the previous one by moving either a fifth up or a fourth down. In order to meet the requirements of six renditions in jiazhong, eight in linzhong and nine in huangzhong for heavenly, earthly and human sacrifices, he had to give a different definition of the starting pitch

yu to each of them. In the first case, he had to treat the yu as the yu of jiazhong's yu, resulting in the pitch nanlu. In the second case, the yu concerned was taken as the yu of the zhi of linzhong, that is, yingzhong. The yu in the last case was simply interpreted as the yu of huangzhong, that is, nanlu. In any case, this way of deciphering the meaning of the moral significance of the number of renditions (bian) and the related pitch-modes was only possible if he applied the meaning of the word freely to mean a small section within a rendition.

Han Bangqi's reliance on Song theories for the determination of pitches and the ritual classics for the formulation of a standard of performance practice of ceremonial music represents a more old-fashioned style of thinking in the first half of the sixteenth century, which regarded active pursuit of knowledge through study as an important step towards the acquisition of a virtuous character. He obviously thought ancient music could be restored objectively by scholarly activities. Wang Yangming's subjective approach had only affected Han in proposing a highly individual way of interpreting modal organizations in the Zhouli.

The co-existence of the more progressive thinking of Wang Yangming and the conservative ideas of Han Bangqi had prompted a number of scholars to compromise between the two extremes. This result was an acceptance of Wang's principle that ancient music could be re-created readily by a simple method of determining pitches and modes, and by the adoption of existing performance tradition, and, at the same time, of the merit of consulting written historical sources on music. Such a mixture could, eventually, lead to a subjective interpretation of selected historical sources, and therefore the generation of highly controversial music theories.

Further Development of Wang Yangming's Subjective Ideas: Emergence of Innovative Ideas by Re-defining the Old Tradition

Zhang Yu (fl.1538).

A case in point is Zhang Yu (fl. 1538), a contemporary of Han Bangqi who was an official at the Ritual Department during the reign of the Jiajing Emperor. While Zhang accepted the moral value of ceremonial music outlined in the Yueji, he rejected the generally accepted view that ancient music was lost, owing to the possibility that its meaning could be preserved in the Zhouli, Liji and other classics (Yayue fawei Introduction.1a-1b). This led to his somewhat abrupt conclusion that "the essence of ancient music was preserved in contemporary music" and the way to restore the tradition was to "simplify the present melodies, replace the licentious words by those of high moral quality, and to slow down the tempi of the music so that notes could be properly spaced." (Yayue fawei Preface.1a) These are, of course, the four essential qualities of ceremonial music defined in the Yueji (Liji 38.5b). Such refinement was necessary because Zhang admitted the contemporary music he referred to was similar to the extravagant folk music endorsed by the decadent Emperor Zhou of the Shang period, and that of the much criticized composer Shiyan of the Zhou period (Yayue fawei 6.2b). The combination of the notion of historical writings and the use of existing practices to revive the past strengthened Zhang's theory that ancient music had not been lost.

Zhang further illustrated this point by making a distinction between music theorists and practical musicians. He thought the transmission of ancient music was complicated by the futile effort of music scholars, particularly Li Zhao, Yang Jie and Wei Hanjin of the Song dynasty, who had proposed significant changes to musical system, yet the practical musicians took no notice of these suggestions, and continued with the proper way of performing music (Yayue fawei 6.6a-6b). As a result, he was confident that the pitches and instruments of contemporary music were identical with those in ancient times (Yayue fawei 6.3a).

Like other Ming theorists, Zhang believed the most important step in the re-creation of the ancient musical practice was to establish a correct system of pitches. He only accepted the human voice as a standard for fixing the fundamental pitch (yuansheng), that is huangzhong, and was against relating the pitch to volumetric or linear measuring standards, or indeed Cai Yuanding's method of Watching for the Ethers (Yayue fawei Introduction.1b-2a). His method was very simple: the lowest pitch reached by a singer was taken as huangzhong (Yayue fawei 1.1a). The drawback is, of course, that there would be a different standard of fundamental pitches for different singers, or indeed, for the same singers under different circumstances. This would create a lot of difficulties if pitched percussion instruments such as the bianzhong or bianqing were involved in the performance.

Zhang also had the confidence to suggest that pitch-modes had a different meaning in ancient ceremonial music: "Music for the gong mode of huangzhong should cadence on jiazhong, that for jiazhong should cadence on zhonglu, that for yize should cadence on the higher octave of huangzhong, that for wuyi should cadence on the higher octave of jiazhong." (Yayi Introduction.1a) In other words, there is a suggestion of transpositions between two to five pitches if the true spirit of the music were to be restored. He went on to state that his theory was founded on the complicated relationship between pitches and harmonic positions of the strings of the ancient five-string instrument qin:

When the music is in the gong mode of huangzhong it should cadence on jiazhong and not huangzhong. Its origin lies in the qin. Since the first string is huangzhong, its twelfth harmonic, which is called xingjin, generates taicou. The length of xingjin is close to that of jiazhong. Therefore, music in the gong mode of huangzhong should cadence in jiazhong.

(Yayi Introduction.1a)

In any case, Zhang was able to introduce the concept that jiazhong was more important than the fundamental pitch huangzhong, contrary to virtually all existing theories. This was a useful starting-point for him to introduce the modal structure of

the music for receiving the heavenly spirits in the Zhouli, which began with these two pitches: "Therefore when ancient music was in the gong mode of jiazhong, huangzhong was taken as jue, taicou as zhi, and guxian as yu." (Yayi Introduction.1b) This is at least a way to explain why music for the most important sacrificial ritual should begin with a mode related to jiazhong (huanzhong). Zhang thought the correct way of interpreting the modes in the Zhouli was lost during the Sui dynasty (581-618) (Yayi Introduction.1b).

In addition to the total trust given to the qin in the designation of modes in ancient music, Zhang honoured Du Kui (fl. 180-226) as one of the greatest theorists of the past owing to his contribution to the preservation of ancient music (Yayue fawei Introduction.1b). To illustrate Du's achievement, Zhang quoted the twelve ritual melodies from Zhu Xi's Yili jingzhuan tongjie (Yayue fawei 5.3b-8b), and argued that they were written by Du, on the basis that the modes of the music corresponded to Du's two pitch-pipes, which measured 3.2 feet and 2.9 feet, emitting the pitches wuyi and the higher octave huangzhong respectively:

The six pieces from Xiaoya of the Shijing (Book of Poetry), namely Luming, Simu, Huanghuang zhe hua, Yuli, Nan you jiayu and Nanshan you tai, are in the higher gong mode of huangzhong. The six pieces from Guofeng, namely Guanju, Getan, Juan'er, Quechao, Caifan and Caipin, are in the higher shang mode of wuyi. The two pitch-pipes described in the Jin History give some hint on how the music should be performed: the huangzhong pipe should be used in the pieces written in the higher gong mode of huangzhong, while the wuyi pipe should be the standard for the pieces in the higher shang mode of wuyi. There is little doubt that these pieces were written by Du Kui.

(Yayue fawei 3.10b)

Zhang Yu had therefore misunderstood Zhu Xi's original intention of including these pieces in his Yili jingzhuan tongjie. Zhu was, in the first place, doubtful about the authenticity of these settings; he had only hoped that the provision of these melodies would draw more comments from music scholars supporting his view. In addition, Zhu was convinced that these pieces, written in the gong mode of higher octave huangzhong and the shang mode of wuyi, did not fulfill the moral

standard of ancient music, owing to the failure to keep the gong below shang and jue degrees. This idea was echoed by Zhang when he proposed sixteen bells and sonorous stones for the bianzhong and bianqing (Yayue fawei 7.4a). Yet Zhang's only concern was the juxtaposition of the modes of Zhu Xi's melodies and the pitches of Du Kui's pipes. Once this was done, he could argue more convincingly that the essence of ancient music was preserved in the extant music of Zhu Xi, which was available to all contemporary musicians.

Li Wenchang (fl.1538-45)

Zhang Yu's idea that ancient music could be preserved by the classics and existing songs was shared by his contemporary Li Wenchang (fl. 1538-45), an official at the Ritual Department. Li honoured the Yueji in the Liji as the notional Classic of Music, and quoted the Song master Cheng Yi in saying it was almost as important as the Doctrine of the Mean and Great Learning in the ritual classic (Xingyue yaolun 1.9a). He went as far as suggesting to the Jiajing Emperor that the Yueji should be treated as the core material for education of the young, as the Four Books had been since the Song dynasty (Xingyue yaolun 1.9b).

In the Preface to his Yueji bushuo [Additional Commentaries to the Book of Music], dated 1538, Li pointed out that the Yueji was "the work of Confucius' disciples who feared the true meaning of music might be lost in later generations", and justified his work by emphasizing the importance to clarify the moral meaning of the original text. Indeed, he was to draw inspiration from the passage concerning the meaning of sound, pitches and music in the Yueji (Liji 37.1a) in his explanation of the origin of pitches. This was done by applying the concept of the interacting roles of matter (li) and force (qi) of Cheng Yi and Zhu Xi, rather than the more subjective approach by Wang Yangming, to the formation of this basic energy for music (Yueji bushuo 1.1b-2a).

Li Wenchang's inclination towards Song ideas can be further illustrated by his endorsement of Cai Yuanding's method of finding the correct pitches by Watching for the Ethers. This resulted, in 1538, in his Lulu xinshu buzhu [Additional Commentaries to a New Treatise on Regulating the Pitches], a treatise written in 1538 in the manner of Han Bangqi's Lulu zhijie, with the intention of making Cai's figures on pitches easier to comprehend. This can be interpreted as a gesture of criticism to the existing system of pitches, yet somehow Li chose not to provide a contemporary solution to the problem. It is possible that eventually Li's ideal pitches were based on the folk tradition of the time, as he believed that it could still preserve the musical characteristics of ancient music, in spite of its licentious character (Xingyue yaolun Preface.1a).

Li's emphasis on the moral meaning of the text of the Yueji had led to an investigation of the relationship between the five degrees and Five Phases, Five Directions, and above all, the physical and abstract aspects of human beings in the form of two diagrams, which could be condensed into one:

Yu	Shang	Gong	Zhi	Jue
Water	Metal	Earth	Fire	Wood
North	West	Central	South	East
Sadness	Anger	Desire	Joy	Happiness
Consciousness	Soul	Will Power	Attentiveness	Spirit
Wisdom	Righteousness	Trust	Propriety	Love
Hearing	Tasting	Touching	Seeing	Smelling
Kidneys	Lungs	Spleen	Heart	Liver
Skin	Bone	Flesh	Hair	Tendon

(Yueji bushuo 1.5a-5b)

This manner of eclecticism, at a glance, is somewhat similar to the practice adopted by the Han dynasty writers of apocryphal books. Yet besides the necessary qualities to put the five degrees in the right perspectives, Li Wenchang's focus was on the human body and its senses, strengthening his argument that the basic elements of music were closely related to human beings.

Li's next step would naturally be a musical application based on the hierarchy of the five degrees. He stressed the importance of having bells and sonorous stones in the higher octave, so as to facilitate proper transpositions when the gong degree, representing the Emperor, was fixed to any of the twelve basic pitches (Yueji bushuo 1.8b). His suggestion for the bianzhong and bianqing was twenty-four bells or sonorous stones for each frame, an arrangement similar to the one provided by Han Bangqi (Guyue quanti 9.4b; 9.12b).

Li was so obsessed with the idea of supreme importance of the gong degree that he applied it to his interpretation of the arrangement of modes in the music of the Zhou period (1066-221 B.C.), or the ideal past:

Music should begin with yu, because it is necessary to have abundant supply of matter before the state could be governed. It should then be followed by jue, because once there is enough matter, people will live in peace. Gong comes next, because once the country is rich, its administration and education policies can be carried out systematically. When there is enough effort, people will become virtuous, and the Emperor will be able to rule the state orderly. Zhi should then follow, because when the state is rich, it is possible to install a system of rites and music to control the behaviour of the people. Finally, it is shang which represents the achievements of the ministers who devote their effort in bringing stability to the state. Shang belongs to zhi and gong, because ministers should not make their own decision, and they should surrender all they have to the Emperor.

(Guyue quanti 2.17a)

Li shared Han Bangqi's idea of beginning a piece of music in yu mode, yet the theoretical bases for these scholars were different. While Han was largely concerned with the right number of renditions in the specified modes in Zhouli's sacrificial rituals to heaven, earth and human spirits, Li chose to argue his case on a moral basis, by first considering the mode which represents the material aspect of the state, and

gradually proceeding from that into various stages of development in the formation of the state. Li therefore took the five degrees in the order of yu, jue, gong, zhi and shang, giving a prominent position to gong, which occupied the centre, and, quite unlike previous thinkers had done, the least important position to shang, which had the connotation of ministers. He could have thought that this was necessary to undermine the status of ministers in an age when the authority of the Emperor was constantly challenged by powerful eunuchs.

Li applied this concept to the modal arrangements of the sacrificial rituals in the Zhouli, and suggested "shang mode should be avoided in the piece Yunmen for sacrifices to heaven, which should, after all, "begin in yu mode and followed by jue mode, leading finally to gong mode", calling this method "the chasing of yu by gong." (Guyue quanti 3.1a-1b) When the modes of the six renditions are worked out according to Li's instructions, they are similar to those provided by Han Bangqi in his Yuanluo zhiyue. The same applies to the eight and nine renditions of the music for the arrival of earthly and human spirits.

Li Wenchang was to demonstrate the modal arrangement of the music for Zhou sacrificial rituals in the first three ceremonial pieces of his Huangming qingong yuediao [Music at the Green Palace of Ming Dynasty], which were written in the order of yu, jue and gong modes (Appendix 3). While the syllabic setting of these pieces are similar to those provided in Zhu Xi's ritual treatise, Li's definition of a mode is confined to the degree of the first note of a piece. The first piece of the set, for example, is, according to Li Wenchang's description, in the yu mode of huangzhong, yet other than the opening pitch, nanlu (the yu degree) is not used in beginning or ending a stanza.

Li Wenchang's music is written very mechanically, progressing from the opening pitch nanlu by a falling fifth or a rising fourth. There is a total of ten four-line stanzas in the piece, and two stanzas make a sub-section, characterized by four ending

pitches presumably for instruments alone. There is also symmetry within each subsection: the first pitch of each line is related to the first pitch of the subsequent line by a falling fifth or a rising fourth. The arrangement of degrees within a piece does not conform to his rule of propriety of the five degrees: the gong degree rises above the shang and jue, potentially leading to a number of unacceptable intrusions of the dignity of the Emperor by ministers and people. In fact, the piece is not based on the traditional idea of pentatonic or heptatonic mode, but it involves all twelve pitches in the basic octave, and is therefore against one of the most rudimentary musical concepts defined in the classics. The same applies to the second and third pieces, which are in the jue mode of yingzhong and gong mode of huangzhong respectively. They satisfied Li Wenchang's ideal modal progression of yu, jue and gong. His main concern must have been in the moral connotation of the modes.

Liu Lian (fl.1550)

The ritual classics had been seen by the controversial theorist Liu Lian (fl.1550), who had never held an official position at the Ritual Department, as a hindrance to the transmission of the perfect ancient tradition of music. His treatise Yuejing yuanyi [The Original Meaning of the Classic of Music] was written to clarify traditional misconceptions on the matter. His theories must have been important enough to draw the attention of Zhu Zaiyu a few decades later, even though they did not receive very complimentary remarks from the prince (Weng: 1976). In his mind, the Shijing (Book of Poetry) was the real Classic of Music, because it was older and more accurate than the "largely misleading texts of the Yueji and the chapter Dasiyue (Grand Director of Music) in the Zhouli." (Yuejing yuanyi Preface.3b) This view was affected by his understanding that music was different from other less complicated areas of learning, and therefore "had to be preserved by words in form of poetry, theories on pitches and instrumental timbres, and the actual music of the

performers." (Yuejing yuanyi Preface.1b-2a) There is no doubt that Liu had an analytical mind, owing to his ability to classify different aspects of music into texts, instruments and performance. While he admitted song texts had a profound influence on the moral value of music, he was against theorizing on music without reference to actual music, a common weakness he claimed of most ancient and contemporary treatises on the subject.

Liu was against the Song dynasty ideas of relying on either standard measures or the practice of Watching for the Ethers for the determination of the fundamental pitch huangzhong, and preferred the more flexible means of finding the correct the pipe by trial and error (Yuejing yuanyi Preface.4a). This could then be verified by applying the Song theorist Hu Yuan's method of fixing the huangzhong pitch-pipe by measuring it with ninety millet grains lengthwise or filling it up with 1,200 millet grains, while being fully aware of the irregular sizes of the grains (Yuejing yuanyi 1.2a). The slight variations caused by the grains was acceptable, because he thought standard pitches should change when there was a major transfer of power (Yuejing yuanyi 1.17a-17b). The other eleven pitches could then be generated by the Method of Triple Division, insisting, without mathematical proof, that the original huangzhong could be reestablished after the twelfth pitch was arrived at (Yuejing yuanyi Preface.4a).

Liu was not totally unaware of the limitations of the pitches generated by this traditional method; he was to adopt Cai Yuanding's concept of altered (bian) pitches in the construction of the bianzhong and bianqing, so as to avoid certain pitches being out of tune in some modes. This resulted in his suggestion of sixteen bells or sonorous stones for each frame, consisting of twelve from the basic octave, and the altered higher octave pitches of huangzhong, taicou and linzhong, and an extra altered higher octave huangzhong (Yuejing yuanyi 1.8a; 1.12a). Other than the twelve basic pitches, the four additional pitches were different from the higher octave huangzhong,

dalü, taicou and jiazhong adopted by Song and Ming theorists, who had been using such an arrangement to preserve the moral quality of the music when transpositions extended to the pitches yize, nanlu, wuyi and yingzhong. One possible reason could be his choice of modes was rather limited. Above all, Liu's somewhat eccentric design of vital court instruments proves that he was not concerned with maintaining the gong degree below shang and jue to the same extent as some of his peers had been.

He further emphasized this point by contesting the logic of the passage in the Yueji about the moral associations of the five degrees:

It is natural that music should have five degrees, that is, gong, shang, jue, zhi and yu. Similarly, a state should have an Emperor, ministers, people, affairs and matter. It is pure convenience that names are given to the five degrees and the five hierarchies. In reality, music and the state should have absolutely no connections. If the hierarchies of the state are not in order, it is futile to put the blame on the disorder of the five degrees.

(Yuejing yuanyi 1.24b-25a)

Liu therefore believed a large number of past and contemporary theorists had been misled, in this respect, by the ritual classic. He favoured the non-hierarchical definitions of the five degrees in the following manner:

Gong	Shang	Jue	Zhi	Yu
Mooing of Cow	Departure of Sheep from Flock	Crowing of Cockerel	Squealing of Pigs	Neighing of Horse
Throat	Teeth (<u>ya</u>)	Tongue	Molars (<u>chi</u>)	Lips
Low	Low	Neither Low Nor High	High	High

(Yuejing yuanyi 1.2a-2b)

The five degrees are related somewhat at random to the cries and mental states of five common animals, and the parts of the mouth responsible for producing sound. There is no suggestion, for example, that the animal representing the gong degree,

cow, is any more important than horse, the animal related to the yu degree. The same applies to throat and lips when they are paired with the gong and yu degrees. The relative importance of each of the five degrees cannot be judged by their pitches either; here Liu merely described the gong and shang degrees as low and zhi and yu as high. He was quick to dispel any attempt to formulate any moral judgement based on the positions of these degrees by adding "With respect to the dimensions of instruments, the gong and shang degrees are superior to zhi and yu. The reverse is true when their actual sound is considered." (Yuejing yuanyi 1.2b) This challenge to the classic was necessary, if he were to question an established practice.

Indeed, Liu was to give his own reasons why the bianzhong and bianqing should be ideal instruments for ceremonial music. With such a design, he thought these instruments "possessed all twelve fundamental pitches and had a special potential to perform music in the gong and shang modes", and would therefore "never emit licentious sound even if the music itself had such quality." (Yuejing yuanyi 1.17b-18a) He went on to point out that folk instruments such as the sanxian and zheng were not capable of producing music which matched the high moral standard of ancient music, presumably owing to their broader ranges. There was another category of instruments which could produce either kind of music, depending on the quality of the piece itself, and they comprised the chi, bili, di and xiao.

Liu therefore held a liberal view towards the choice of instruments in ceremonial music. Again, this was made possible by challenging a passage in the Yueji (Liji 39.5b-7b) concerning the effect of various instrumental colours on ministers holding different positions:

The classic says: "When a gentleman hears the sound of the bells, he thinks of the minister in charge of military affairs. When he hears the sound of the sonorous stones, he thinks of the minister in charge of boundaries. When he hears the sound of the qin and se, he thinks of the minister who is brave and has a sense of righteousness. When he hears the sound of the sheng, yu, xiao and guan, he thinks of the minister who takes care of the wealth of his people. When he hears the sound of the gu and pi, he thinks of the minister who leads the armies." Music obviously has many different applications, and there is no

reason to restrict it to represent these five ministers. If every type of instrument represents a minister, does it mean one ought to think of all five ministers when the five types are played at the same time? Should one not still think of the ministers when there is no music?

(Yuejing yuanyi 1.25a-25b)

Liu made use of the ritual classic's rigid moral applications of six of the eight types of instrumental sound, that is stones, metal, silk, gourd, bamboo and skin, to demonstrate the validity of his argument that the merit of music had little to do with what instruments were involved in its performance. That is why he was not prepared to denigrate the bili, a foreign instrument which would not be normally considered as conforming to strict standard of ceremonial music.

Liu had the idea that the Grand Director of Music (taishi) in the Zhou period (1066-221 B.C.) had fixed modes for setting music to different categories of the some three hundred poems in the Shijing. He thought folk poems from the fifteen states (guofeng) and those concerned with lower level of administration (xiaoya) should be in shang mode, while those related to higher level of administration (daya) and the praising of former sage-rulers (song) should be in gong mode. The conclusion was music at the idealized period of Zhou court was either based on the pitch huangzhong or taicou, the first two yang pitches of the six in the basic octave (Yuejing yuanyi Preface.2b). He went on to boast that if this approach were followed, theorizing on music would become an easy task (Yuejing yuanyi 1.3a).

Based on this simple theory on pitch-modes, Liu challenged the text of the Zhouli concerning the designation of two pitches, a masculine (yang) and a feminine (yin), to the performance of each of the six great ancient pieces, Yunmen, Xianchi, Dashao, Daxia, Dahuo and Dawu for various sacrificial rituals:

I think the six feminine pitches are to assist their six masculine counterparts, so that transpositions become easier. The Zhouli says "Sing dalü, sing yingzhong". In this case, dalü and yingzhong are not feminine pitches, but poems. If they are really poems, why does the classic not say "Sing a certain

poem" and says "Sing dalü" instead. Although the three hundred poems of the Zhou dynasty are still extant, none of them is called dalü.

(Yuejing yuanyi 1.26a-26b)

The way that Liu Lian had tried to undermine the ritual classic seems very odd: his argument was entirely based on the application of a narrow definition of the word "sing", which was restricted to the singing of poetry. The original classic text distinguishes two groups of modes: six masculine which are to be played and six feminine which are to be sung. Few theorists had attempted to challenge the interpretation of Jia Gongyan (fl. c.650) in the Tang dynasty that "sing" referred to the performance of music by the Terrace Ensemble (tangshang) and "play" to that by the Courtyard Ensemble (tangxia), apparently making no distinction between the performance methods of the two ensembles (Zhouli 22.8a-9a). By proving the classic was wrong in using the word "sing", Liu thought he could dismiss any pitches following this key word. The important message that Liu tried to put across was that the only possible modes for the music of the Zhou period were based on the first two yang pitches huangzhong and taicou, and he did not believe there were any positions for feminine pitches such as dalü and yingzhong, nor the other four yang pitches. This is illustrated by his musical settings, amongst other poems, of Luming, Yuli and Juan'er referred to in the Yili, which, according to him, centre on the pitches huangzhong and taicou (Appendix 4).

Liu Lian's setting of Luming, a poem related to the lower level of administration (xiaoya), is claimed to be based on taicou, that is, the shang degree of huangzhong. Yet none of the three stanzas begins or ends on the pitch. In fact, he could have treated the music as written in the jue mode of huangzhong, owing to the pitch guxian being taken as the initial for the three stanzas, or he could have simply regarded it as written in the gong mode of huangzhong by considering the cadencing pitch.

The same inconsistency occurs in his setting of Yuli, also a xiaoya poem: it neither begins nor ends on huangzhong, the pitch he claimed to have based it on. The pitch huangzhong, however, has a more definite role here, owing to it being used as the cadencing pitch for the first three stanzas. In any case, it is more appropriate to name the mode of the piece jue of huangzhong, based on the beginning pitch guxian for each of the five stanzas, or shang of huangzhong, based on the finals of the last two stanzas.

Juan'er, on the other hand, is in the shang mode of huangzhong, as Liu Lian has claimed, owing to taicou being used as initial and final for the piece. His credibility as a theorist must have been put into doubt because of his apparent failure to understand the basic concept of a mode.

It does not stop Liu from going on to criticize the Zhouli's designation, and the formation, of modes for music of the heavenly, earthly and human sacrifices, so as to reiterate the message that the most important modes were those related to the pitches huangzhong and taicou:

Huanzhong in the classic is jiazhong, and hanzhong is linzhong. In other words, feminine pitches such as jiazhong and linzhong are used as cadencing pitches for gong modes, while masculine pitches such as huangzhong and taicou are used as cadencing pitches for jue modes. In addition, the shang degree is omitted altogether. There is great confusion between masculine and feminine, and high and low pitches. No modes can be formed by the gong, jue, zhi and yu degrees alone. Confucian scholars of the present follow this ridiculous practice of omitting the shang degree in music for these rituals, and make the assertion that it relates to metal of the Five Phases, and is therefore in conflict with the wooden nature of the Zhou period. Since the system of pitches was established by ancient sages, it should remain unchanged for ever. If one believes what is described in the section about the Grand Director of Music in the Zhouli, there should be different systems of pitches for heavenly and earthly sacrifices. In other words, at least two ancient sages must have been involved in working out the pitches. Is such an argument really logical?

(Yuejing yuanyi 1.27a)

Liu was not at all satisfied with the feminine pitches jiazhong and linzhong being used as the fundamental pitches for music in gong modes, while the more important masculine pitches huangzhong and taicou were only reserved for the less

important jue modes. He saw the omission of shang modes in the three rituals as an indication that the shang degree should be avoided, thinking in line with those of Zheng Xuan (127-200) of the Han and Jia Gongyan of the Tang dynasty. Yet Liu could not have pretended that he was not aware of the more recent interpretation by Zhu Xi that within each of the modes described in the classical text, all five degrees were to be used. The reliance on such a dated theory to discredit the classic suggests Liu was ready to use any excuses for this purpose. His concern about the different sets of modes for the three sacrificial rituals is equally unfounded, owing to the implication that an ancient sage could only devise modes for one sacrificial ritual. If he had a chance to propose a system of modes for these rituals, he would have the same set for all of them.

Liu's criticism of the ritual classics extended to the Yili, particularly to the eighteen pieces of music concerned with the Dining Ceremony (yanli). The musical settings of twelve of these, of course, had been provided in Zhu Xi's Yili jingzhuan tongjie. Liu thought amongst these poems, only Luming, Yuli, Nanyou jiayu and Nanshan youtai could be used on most occasions, while the remainder of the twelve should be used in more specific situations, owing to the special meaning of the texts they carried (Yuejing yuanyi 5.1b). He went on to state the reasons why the classic had wrongly accommodated these musical settings in the ceremonies:

Now in the Dining Ceremony, the poems Luming and Nanshan youtai are sung. Additional pieces include Simu, Huanghuang zhe hua and repertoire chosen from Zhounan (Guanju, Getan, Juan'er) and Zhaonan (Quechao, Caifan, Caipin). The choice of repertoire is so haphazard that it defeats the purpose of having to maintain a balance between poems about administration and the praising of former sage-emperors. The reason for this is during the Spring and Autumn period (770-476 B.C.), the dukes and ministers of the different states sang poetry when they met in order to express their feelings. As a result, folk poems and poems concerned with administration or praising were used at random as channels to communicate. Very often, these were used as riddles, and were subject to wild interpretations of individuals. This kind of scenario could not have been condoned during the prosperous period of the Wen and Wu Emperors of the early Zhou period. Confucian scholars of the present dynasty did not bother to rectify this error, and took the easy

way of following a wrong tradition. This is certainly contradictory to the teaching of the former sage-emperors.

(Yuejing yuanyi 5.1b-2a)

Liu was against the apparent random selection of poems to be sung in the Dining Ceremony, particularly the six folk poems collectively known as Zhounan and Zhaonan. The theory that the ruling class in the Zhou period used poetry as a medium of communication is convincing enough, yet Liu's argument became tenuous when he suggested this social practice as the sole reason for the inclusion of informal poems in ceremonies in the Yili. Liu therefore thought the classic was a record of what actually happened during the Spring and Autumn period, rather than a more recent account around the fourth and third centuries B.C. He had also excluded other possibilities such as an improved attitude towards the folk poems at the time of the compilation of the classic. After all, few would have questioned the nature of the poems in the Shijing seriously by the time when the Yili appeared, because they were believed to have been endorsed by Confucius (551-479 B.C.).

In any case, Liu had some new insight concerning how the poems were to be performed. He developed Zhu Xi's comment in the Yili jingzhuàn tóngjiè that ancient poems were not sung syllabically, and suggested that after the articulation of one word by the singer, the same pitch should be repeated three times separately by percussion, plucked and wind instruments (Yuejing yuanyi 5.13a-13b).

Liu Lian was one of the earliest theorists to query the Yili commentaries of Zheng Xuan and Jia Gongyan concerning Nangai, Baihua, Huashu, Chongqiu, Yougeng and Youyi, the titles of the six pieces without texts, performed by bamboo organs (sheng) in the same ceremony. He disagreed with Zheng, Jia and subsequent scholars that these should be performed as instrumental pieces on the ground that the texts of these poems must have existed in the past (Yuejing yuanyi 5.2b-3b). This controversial and yet logical idea was to be developed by Zhu Zaiyu about half a century later, when he re-created both the texts and music of these poems in an

attempt to revive the ancient tradition in his Lulu jingyi (The Essential Meaning of the Standard Pitch Pipes). This tradition was carried on until the late eighteenth century, when the Qianlong Emperor ordered court musicians to provide new texts and music for these six poems in Qinding shijing yuepu quanshu [Imperially Commissioned Complete Collection of Music for the Book of Poetry].

Liu Lian's strong criticism of the musical aspects of the three ritual classics cannot be taken as an anti-Confucian attitude. After all, he had not rejected the view that ceremonial music had a role to play in maintaining the well-being of the state, the most important point stated repeatedly in the Yueji. Liu chose to re-create the lost tradition by ignoring most of the contemporary practices of the Ming, or indeed the established theories based on commentaries of respected Han and Tang scholars. He found it necessary to go back to the idealized period of the Zhou prior to the eighth century B.C. for inspiration in music, and therefore had to believe the Shijing as the only reliable source. The deliberate ignoring of theoretical and practical traditions is a typical example of taking freedom of thinking to an extreme, and was only possible in a period which did not emphasize the vigour of learning, like the Ming.

*The Co-existence of Conservative Views:
Wang Bangzhi (fl.1586)*

The position taken by most court officials towards music was, of course, much more conservative than Liu Lian would have liked. This can be verified by referring to Chen Renxi's (1579-1634) Huangming shifa lu (A Collection of Government Documents of the Ming Dynasty), which includes much less adventurous descriptions of musical practices towards the end of the Jiajing and the beginning of the Wanli Emperors, that is, from c.1560-86. Three of the four chapters on music are taken from Wang Bangzhi's (fl.1586) sixty-chapter Lulu zhengsheng [The Proper Sound of the Pitches], now not easily available owing to its exclusion from the Siku quanshu

(Complete Collection of the Four Treasuries of Literature) in the late eighteenth century (Siku quanshu zongmu 334).

Like most of the theorists since the Han dynasty, Wang regarded the fundamental pitch huangzhong as the most crucial factor affecting the quality of ceremonial music. He disagreed with Cai Yuanding's complicated numerical representation of the fundamental pitch as 177,147 on the one hand, and on the other hand condemned the Ming scholar Li Wenli's idea of following the Lushi chunqiu's (Master Lu's Spring and Autumn Annals) definition of the pitch-pipe being 3.9 inches in length. His suggestion for the length of the huangzhong pipe was 9 inches, a measurement widely accepted since the Han (Huangming shifa lu 23.4b-5a).

Wang went on to discuss the advantage of adjusting the pitch of the gong degree to huangzhong:

If the gong degree is fixed to pitches other than huangzhong, then ministers and people occupy superior positions to the Emperor. This will lead to the disorganization of rites and righteousness, the abandonment of virtuous human behaviour and the disobedience of the laws laid down by heaven. Whatever is played will be against the hierarchies of the state and the structure of human relationships. Is there any hope that music could still improve the habits of the people and help maintain a good relationship between heaven and human beings?

(Huangming shifa lu 23.5a)

Wang's idea about the superiority of the gong mode of huangzhong resembled that of the Sui dynasty (581-618) theorist Zheng Yi. Yet Wang was also affected by Feng Yuan and Song Qi of the eleventh century, who developed their theory from the Yueji that it was necessary to keep the gong degree below shang and jue for moral reasons. Judging from the range of Wang's bianzhong and bianqing, which was restricted to the twelve fundamental pitches (Huangming shifa lu 25.1b-2b; 6a-6b), he had no choice but to exclude the prospect of free transpositions, if he were to maintain the necessary relationship between the degrees representing the Emperor, ministers and people.

From this, Wang developed the theory that each mode should only comprise the five degrees, gong, shang, jue, zhi and yu, which were categorized in the following manner:

Gong, shang and jue of the five degrees are called congsheng, while zhi and yu are called biansheng. The idea of cong is that a masculine or feminine pitch should be followed by a pitch of the same gender. On the other hand, bian has the implication that a masculine pitch should follow a feminine pitch, or vice versa. Therefore, congsheng are used to represent the Emperor and ministers, so that there is a clear demarcation of superiority and humbleness, and that the latter will not intrude outside their boundaries. Since biansheng are used to represent affairs and matter, the idea of intrusion does not strictly apply to them. When the degree representing the Emperor (gong) is fixed to a masculine pitch, the degrees shang and jue will also be masculine, while the zhi and yu will be feminine. If, on the other hand, the gong degree is fixed to a feminine pitch, the shang and jue will also be feminine, while the zhi and yu will be masculine. If a mode has seven degrees, the two extra pitches will disrupt the clear order of the congsheng and biansheng.

(Huangming shifa lu 23.43a-43b)

While Chen Yang advocated the pentatonic mode in order to avoid the licentious character of the heptatonic mode, Wang chose not to tackle the issue musically, but emphasized the moral aspect of the former. Wang had invented the terms congsheng and biansheng to distinguish degrees which were considered to have a serious implication on the social order of the state from those which do not have any human factor. The use of masculine and feminine pitches to support this theory is not only original, but also a convincing excuse for the exclusion of the two bian degrees, that is, the biangong and bianzhi, from ceremonial music.

Wang had little to add concerning the description of modes of the sacrificial rites to heavenly, earthly and human spirits in the Zhouli; he merely collected commentaries on the passage from Jia Gongyan of the Tang, and Chen Yang and Zhu Xi of the Song dynasty (Huangming shifa lu 23.62a-68a). His intention, in any case, was to comply with the classic rather than to invent new interpretations.

Wang's attitude to the twelve melodies recorded in Zhu Xi's Yili jingzhuan tongjie sums up the mind of a typical conservative theorist who was more at home in looking for inspiration from the past: "Since these melodies contain some ancient

ideas, they reflect the musical practices of the past. Although they are not entirely authentic, they are nevertheless close to being so. Are they not better than the licentious music of the States of Zheng and Wei, or foreign music?" (Huangming shifa lu 24.7b) The notion of antiquity overruled the incompatibility of his theories with Zhu Xi's musical settings, which were heptatonic and involved more than twelve fundamental pitches.

*The Culmination of the Liberal Mind of the Ming:
Zhu Zaiyu (1536-1611)*

Any discussion of music theory in the Ming, or indeed in the later periods, is not complete without Zhu Zaiyu (1536-1611), the son of Zhu Houwan (1518-91), the sixth prince of the area of Zheng, and a descendant of the fourth Ming Emperor Hongxi (r.1424-25). The dispute between Zhu Houwan and the Jiajing Emperor (r.1521-66) in 1548 concerning excessive Daoist influence at court need not concern us here, yet it had a tremendous influence on Zhu Zaiyu in the years between 1550 and 1567, when he, totally disillusioned, decided to live alone in order to pursue his father's interest in musical and calendrical theories, particularly those put forward by He Tang (1474-1543), whose great-great-granddaughter, incidentally, he was to marry in 1570.

No doubt, Zhu Zaiyu's dedicated work in this period had laid a solid foundation for his prolific publications in the area, from the first completed work Luli rongtong (Coordinated Study of the Pitch Pipe and the Calendar) in 1581 to the submission to the throne of his mammoth collection entitled Yuelu quanshu (Complete Works on Music and the Pitch Pipes) in 1606. His most important contribution was, of course, the often discussed mathematical rectification of the inaccuracies of pitches generated by the Method of Triple Division, presented in his Lulu jingyi (The Essential Meaning of the Standard Pitch Pipe), written between 1584

and 1596, but only published in 1606 under the collective title Lushu as part of Yuclu quanshu.

Zhu took the traditional Confucian view of the tremendous importance of music to the well-being of the state described in the ritual classics. He was particularly fond of the musical passages in the Zhouli, which he referred to as the Classic of Music (Yuejing), and included its text as an appendix entitled Yuejing guwen (Old Text of the Classic of Music) in his Yuxue xinshuo (A History of Music).

Like most of the theorists since the Song dynasty, he was concerned with the determination of the right fundamental pitch huangzhong. He used the Jinshi (History of the Jin Period) and Yuanshi (History of the Yuan Dynasty) to prove that early Ming musicians wrongly adopted the pitch system of the Dasheng Institute devised by Wei Hanjin (Lulu jingyi waipian 1.27). He thought it was unfortunate that Zhu Xi believed what his pupil Cai Yuanding had proposed to him; Cai's huangzhong was similar to that of the early Song theorist Wang Pu and the Han scholar Liu Xin, which was three pitches too high (Lulu jingyi waipian 1.12-13). Zhu's ideal pitch was therefore 448 Hz. (a¹⁺) (Yang 1952:300).

What is more important is the way he arrived at this pitch. He blamed Confucian scholars of different generations for failing to understand the origin of music discussed in the Yueji, which led to the use of wrong pitches:

Pitches originate from within the human heart. Music will never disappear, because the human heart is an eternal quality. The trouble is there are many music scholars who write music readily without any theoretical background. One cannot blame the fact that the theory of music has changed for the worse. The situation of entertainment music is very different: there is no strict standard of measurement to start with, and it is entirely up to the performers to decide their pitches. As a result, they are perfectly at home with the standard of the pitches chosen. When the singers reach the high range, their voices will not be unduly strained, and there is no question of losing the tone quality when they sing the low pitches. Thus, they perform music according to the rules of nature. This is what the ancient sages called the optimum pitches (zhongsheng).

(Lulu jingyi waipian 1.21)

Zhu was against pursuing the standard pitches in a quasi-academic manner. His idea that the proper tradition of music was preserved in music of the living tradition was akin to that of the subjectivity of Wang Yangming, and gave him the momentum to make every effort to restore the lost tradition. The way he arrived at the correct pitches contradicts his own ideas: while he believed ancient pitches were three steps lower than Cai Yuanding's standard, he did not mind if the singers decided the optimum pitches themselves. In other words, the practical experience of the performers was more important than what he would have considered as senile scholastic hypotheses.

In addition, Zhu proposed a more serious way of finding the right fundamental pitch. In order to strengthen his argument, he had no choice but to undermine the credibility of existing pitch theories, particularly those put forward by Ming scholars. Li Wenli's suggestion of 3.9 inches for the huangzhong pitch-pipe was an obvious target, owing to the difficulty in matching the resulting high pitch with the dignity of an Emperor, and against the moral definition of the five degrees given in the Yueji (Lulu jingyi waipian 2.2-4). Zhang Yu, on the other hand, was criticized for taking the lowest pitch of the human voice as huangzhong, and therefore showing ignorance of the existence of lower octave (bei), and hence higher octave (ban) pitches (Lulu jingyi waipian 2.9-10).

Zhu Zaiyu emphasized that the bamboo flute (di) used in folk music had all the essence of ancient pitch theories, because it emitted the following degrees/pitches when its six holes were stopped in the following manner:

Fingering	Degree	Pitch
All six holes stopped	lower zhi	linzhong (lower octave)
Five holes stopped	lower yu	nanlu (lower octave)
Four holes stopped	lower biangong	yingzhong (lower octave)

Three holes stopped	gong	huangzhong
Two holes stopped	shang	taicou
One hole stopped	jue	guxian
All holes unstopped	bianzhi	ruibin

(Lulu jingyi waipian 4.4-6)

The involvement of the bamboo flute does make Zhu's theory more scientific, compared with the intangible nature of the human voice. The choice of the di of the right range was, of course, still a subjective matter. He managed to demonstrate that it was possible to determine the huangzhong quite easily by stopping three of the six holes on the instrument. He was also able to substantiate the fact that the correct huangzhong was the pitch in the optimum range (zhongsheng), since there were three degrees below and three above it when huangzhong was taken as gong.

Zhu held the optimistic view that "once the pitches are determined, the essence of ceremonial and entertainment music of the past and present could be grasped". (Lulu jingyi waipian 1.22) What he meant was, of course, the first step of this complicated process would then be completed.

The next issue confronted by Zhu Zaiyu was the generation of the eleven other pitches of the basic octave. The existing practice in the Ming was the Method of Triple Division (sanfen sunyi fa), as recorded in the Lushi chunqiu (Master Lu's Spring and Autumn Annals) (6.1b) dated the third century B.C. and Guanzi (The Book of Master Guan) (19.1a) dated the fourth century B.C., the last allegedly written by Guan Zhong of the seventh century B.C. In both cases, the length of the fundamental pitch huangzhong is represented by a number which is subject to the addition or subtraction of a third of its original length. Lu's record begins with the subtraction of a third of the length of huangzhong, which leads to the generation of linzhong a fifth above, while Guanzi first determines the linzhong a fourth below by

adding a third to the length of huangzhong. If the process of adding or subtracting a third is carried out alternately eleven times, it should theoretically be possible to formulate all the twelve pitches in the basic octave.

The drawback of this simple method of calculation is the inevitable production of fifths which are too large and fourths which are too small. Apart from the inaccuracies in performance, scholars had been particularly frustrated by the theoretical impossibility of generating the original huangzhong from zhonglu, a fourth above the basic pitch. It has been pointed out that scholars with a mathematical mind had proposed different methods to compensate for the shortcomings of this traditional pitch theory. These include Liu An (c.179-122 B.C.), Jing Fang (202 B.C.-9 A.D.), He Chengtian (370-447 A.D.), Qian Lezhi (fl.415-55), Chen Zhongyu (fl.516) and Wang Pu (fl.959) (Kuttner 1975:171-73). They did not achieve the desired results owing to their concern with the manipulation of numbers in the context of the Method of Triple Division. Nevertheless, Jing Fang's sixty pitches and Qian Lezhi's extension of calculation to 360 pitches did produce close approximations. One must, at this point, add that Zhu Zaiyu would have been familiar with Cai Yuanding's theory of using six additional varied (bian) pitches to provide a practical solution to the virtually impossible theoretical calculations.

Against this background, Zhu Zaiyu worked out a mathematical theory in his Luxue xinshuo (A New Account of the Science of the Pitch Pipes) of 1584, leading eventually, to a detailed presentation of the calculations of equal temperament in Lulu jingyi completed in 1596. In essence, his twelve pitches were separated from one another by a ratio of the twelfth root of 2 (Robinson 1980:77)². The discovery of this theory removed the mystery surrounding the hitherto rigid hierarchical relationship between the twelve pitches. While huangzhong might still be a convenient point of departure for pitch theories, its supremacy over the other eleven pitches was weakened considerably, owing to the possibility of generating it from zhonglu, the

last of the twelve pitches worked out by the Method of Triple Division, or indeed, from any other pitches.

Whereas Chen Yang of the Song dynasty and Wang Bangzhi of the Ming had chosen different passages from the Yueji to substantiate their theories of the ideal five degree mode, Zhu Zaiyu made use of yet another idea from the same source to argue for the addition of two bian degrees. Zhu defined the five degrees, gong, shang, jue, zhi and yu as sound (sheng), and biangong and bianzhi as pitches (yin), and argued that music (yue) must include these two elements (Lulu jingyi waipian 4.24). The idea of sound, pitches and music had been, of course, presented in the classic as qualities of different levels of sophistication (Liji 37.1a). Since the Han dynasty, it had generally been accepted that sound (sheng) referred to an orderly arrangement of the five degrees, while pitches (yin) a mixture of high and low degrees, which could eventually lead to the creation of music if instruments and dance paraphernalia were available. Zhu must have found it more convincing if he took the ritual text as a basis for his modal theories, otherwise it would have been equally convenient for him to use historical sources such as the Zuozhuan (Master Zuo's Spring and Autumn Annals) and Guoyu (Discourses of the States) to demonstrate the antiquity of the seven degree mode. In any case, he was so against the exclusion of the two bian degrees that he branded Chen Yang as a "decadent Confucian" (Lulu jingyi waipian 4.35), and presumably, applied the same rebuke to followers of Chen in the Ming dynasty.

The liberal mind of Zhu Zaiyu can be illustrated by the freedom he took in interpreting the modal arrangement for the six great ancient pieces provided in the Zhouli, as he offered alternative modes in places he found illogical, shown in the following table by parentheses, very much in the same manner as his predecessors Zhang E and Liu Lian:

Rites	Play	Sing	Zhu Zaiyu's Suggestions (Sing)	Dance
Heavenly Spirit	Huangzhong	Dalu	(Xiaolu)	Yunmen
Earthly Spirit	Taizou	Yingzhong	(Hanzhong)	Xianchi
Four Distant Objects	Guxian	Nanlu	Nanlu	Dashao
Mountain and Rivers	Ruibin	Hanzhong	(Yingzhong)	Daxia
Jiangyuan, Mother of Houji	Yize	Xiaolu	(Dalu)	Dahuo
Former Emperors	Wuyi	Jiazhong	Jiazhong	Dawu

(Yuexue xinshuo 5b.15)

In the same passage, Zhu pointed out that this Zhouli passage was one of the most important sources of ancient music, and regretted that it had often been misunderstood. He was adamant that the existing version of the text had been tampered with by Confucian scholars, and was determined to put the modes into their right perspectives. By making changes to four of the modes in these rituals, Zhu managed to produce a scheme which he claimed was error free, maintaining the relationship of a fifth between the instrumental and vocal ensembles, while at the same time not disturbing the balance between masculine and feminine modes within each ritual.

He went on to justify the changes by giving a detailed account of the theoretical background:

Huangzhong is generated by zhonglu, which is also known as xiaolu. Huangzhong is the son of xiaolu, while xiaolu is the mother of huangzhong. This is why one should say play huangzhong and sing xiaolu. Taizou is generated by linzhong, which is also known as hanzhong. Taizou is the son of hanzhong, while hanzhong is the mother of taizou. This is why one should say: play taizou and sing hanzhong...When the mode of the son is played, it is inevitably a masculine mode. If, on the other hand, the mode of the mother is sung, it is always a feminine mode. Therefore, the modes of the mother and son should match, so should the masculine and feminine pitches. The reason that there are six masculine and six feminine pitches is to enable pitches of opposite genders to match. This is, indeed, a very difficult concept. It is understandable that previous Confucian scholars could not comprehend it.

They only realized it was impossible to generate huangzhong from zhonglu (xiaolu), but could not explain why. It is certain that there are some fundamental faults with the Method of Triple Division. Alas, there has been little attempt to rectify the shortcomings of the theory since the Han dynasty. Since it has never been considered feasible to generate huangzhong from xiaolu, Han theorists had no choice but to change the classic's text from xiaolu to dalü.

(Yue xue xin shuo 16)

Zhu Zaiyu's theory was based on the close relationship between the two modes in each of the rites. He had a firm belief that the feminine modes of the singers should correspond to the masculine modes of the instrumentalists, as a mother is related to her son, and musically, this could be represented by keeping them a fifth apart. This is, by no means, an original idea: the generation of a pitch a fifth above or a fourth below had been one of the most distinct features of the Method of Triple Division. Zhu had obviously taken advantage of his discovery of equal temperament to highlight the mathematical inadequacy of the traditional method in regenerating huangzhong from xiaolu (zhonglu), after the calculation has been performed the twelfth time from the original huangzhong. Therefore, it is understandable that he thought xiaolu in the original text had been replaced by dalü.

Zhu did not, however, mention that there had been little objection to the generation of the eleven pitches in the basic octave from huangzhong prior to his acoustic discovery. It is therefore less convincing for him to suggest that Han scholars had altered the ritual text in order to avoid the musical relationship of a fifth between each pair of modes in the remaining rituals. He had such a strong conviction of the correctness of the theory of equal temperament that he was prepared to argue that the working out of the modes in the Zhouli text should have taken it into account. Anachronism was obviously a less important issue.

Zhu Zaiyu was also very interested in the Zhouli passage concerning the music for heavenly, earthly and human spirits, or rituals for Welcoming the Spirits (jiangshen). While there had been numerous attempts to interpret the meaning of the

four modes assigned to each of the three rituals, Zhu took a step further in providing the music for the arrival of human spirits by quoting an old piece written by the early Ming musician Leng Qian (c.1310 - c.1371), and writing three others for the ritual of human spirits (Yuexue xinshuo 5b.36-38) (Appendix 5).

Leng Qian's original piece is a good choice in the illustration of the music for the sacrificial rite of human spirits, particularly when the meaning of the text, which pays tribute to the Emperor, is taken into consideration. Musically, it is hardly controversial: it is strictly pentatonic, although Zhu Zaiyu strongly advocated the heptatonic mode, and the designated gong mode of huangzhong is closely followed, with the gong degree being the initial and final. Even when the moral implications of the five degrees in the Yueji is taken into consideration, and assuming Zhu Zaiyu was concerned with this issue, the gong (Emperor), shang (ministers) and jue (people) are maintained in the correct order throughout, with the gong below the shang and jue. Only the yu degree, which has a less significant moral value, is allowed to fall below the gong. In other words, this piece would have met the expectations of Song dynasty neo-Confucian theorists, and those of the Ming who were concerned in the subject. The only moral drawback is the presence of two gong degrees, the huangzhong in the basic octave and the higher octave huangzhong, hinting at the possibility of the highly undesirable situation of having two Emperors at the same time.

Zhu had, in fact, done very little with Leng Qian's music; he merely rewrote it according to the modes specified in the Zhouli, namely dalü is jue, taicou is zhi and yingzhong is yu. He did not even attempt to explore the possibilities of interpreting the modes differently, such as treating them as jue mode of dalü, zhi mode of taicou and yu mode of yingzhong, as some Song musicians had done, or the more recent but relatively complicated theories of Han Bangqi and Liu Lian. Zhu Zaiyu was keen on providing an interpretation of the Zhouli text through actual music, just as Zhu Xi had

done in his Yili jingzhuan tongjie. The practical mentality of the Ming was at work: he was less worried about the authenticity of the chosen piece than producing something that would work, and, of course, facilitated by the new emphasis on transposition arising from the theory of equal temperament.

Zhu Zaiyu was influenced by his father's high regard for the Shijing (Book of Poetry), and used its existence to strengthen his argument that the ancient tradition of music had not been lost (Lulu jingyi waipian 7.1-2). The first step towards the revival of this tradition was to formulate the modes for different categories of poems, in a manner similar to Liu Lian, but taking the moral definitions of the five degrees in the Yueji into consideration:

Poems about higher level of administration (daya) should be sung in gong mode. Gong represents the Emperor, and music in this mode is the most precious and carries most respect. This is why these poems should begin (qidiao) and end on (biqu) gong degree. Poems about lower level of administration (xiaoya) should be sung in zhi mode. Zhi represents affairs, and music in this mode reflects the act of seeking advice, which is an important step towards making the right decision. This is why these poems should begin and end on zhi degree. Folk poems from the fifteen states (guofeng) should be sung in jue mode. Jue represents the people, therefore folksongs are popular everywhere. Jue also represents grass, which belongs to wood of the Five Phases. This is why these poems should begin and end on jue degree. Poems concerned on the praising of Zhou sage-rulers (Zhousong) should be sung in yu mode. Yu represents matter, and music of the Zhou period is in different renditions: the first rendition is related to feathery creatures (yuwu) and earthly spirits, while the sixth is associated on abstract objects, heavenly spirits or other invisible respectable qualities. Only matter is visible. That is why these poems should begin and end on yu degree...Poems concerned with the praising of Shang sage-rulers (shangsong) should be sung in shang mode. The "shang" in shang mode shares the same character as the house of Shang. People in the Shang period might well have valued it, but it was abandoned by the house of Zhou.

(Lulu jingyi waipian 5.14-15)

Unlike Liu Lian, who only allowed gong and shang modes in the singing of these poems, Zhu assigned each of the five modes, gong, shang, jue, zhi and yu, to the five types of poems classified according to their content. It is worth noting that while he made use of the idea of the hierarchies of the five degrees in putting forward his idea, he did not intend to follow the Song dynasty theory of grouping the three

morally vital degrees, and therefore their corresponding modes, in the order of gong, shang and jue. This was done very cleverly by not mentioning the fact that the shang degree represented the ministers.

Zhu Zaiyu's discussion on the modes for poems in the Shijing had a practical application, which was related to the Yili (Book of Etiquette and Ceremonial). While Zhu Xi provided musical settings for twelve poems contained in the classic in his Yili jingzhuan tongjie, Zhu Zaiyu took a more thorough approach by developing Liu Lian's theory on the six poems without texts mentioned in the classic, and invented his own texts and music for Nangai, Baihua, Huashu, Chongqiu, Yougeng and Youyi (Lulu jingyi waipian 7.4-23) (Appendix 6).

When it came to the more technical aspects of music, Zhu Zaiyu understandably would only maintain his own ideas. He was particularly against Liu Lian's theory of the restrictive use of modes in the musical settings of these poems, and at the same time, he disagreed with Li Wenchang's mechanical way of setting texts to rising fourths and falling fifths, and Zhang Yu's practice of choosing pitches according to inflexion of words (Lulu jingyi waipian 5.15). As a result, these eighteen pieces were written strictly according to his modal plan: poems categorized as related to the lower level of administration (xiaoya), namely Luming, Simu, Huanghuang zhe hua, Nangai, Baihua, Huashu, Yuli, Yougeng, Nan you jiayu, Chongqiu, Nanshan yutai and Youyi, were in zhi mode of huangzhong, while the six folk poems, Guanju, Getan, Juan'er, Quechao, Caifan and Caipin, were in jue mode of huangzhong. From the way the music was written, it is hardly possible for anyone to accuse him of interpreting the modes wrongly. Pieces in zhi mode of huangzhong begin and end a stanza on the zhi degree linzhong, while those in jue mode of huangzhong begin and end a stanza on guxian, the jue degree. The juxtaposition of pitches and words was, of course, free from the rigid rules promulgated by Li Wenchang and Zhang Yu.

In spite of Zhu Zaiyu's declared intention of favouring the heptatonic mode, the music he provided for the Yili poems shows no sign of it being put into practice. He is, in fact, one of the very few theorists involved with musical settings of these poems to use a variety of modes which deviate from established practices. Seven poems in this set (Luming, Huashu, Yuli, Yougeng, Nanyou jiayu, Chongqiu and Youyi) are in hexatonic mode, based on the exclusion of the second degree shang from the heptatonic mode. The other settings are in some kind of altered pentatonic mode, again derived from the heptatonic mode. Simu, Huanghuang zhe hua, Nangai, Baihua, Nanshan youtai do not include any shang and bianzhi degrees, while the six folk poems (Guanju, Quechao, Getan, Caifan, Juan'er and Caipin) are set to melodies without the shang and zhi degrees. The fact that the shang degree is excluded in all cases makes it possible to suggest that Zhu Zaiyu had taken seriously the Han dynasty belief in avoiding shang, a degree associated with metal of the five elements in the music of Zhou rituals. If this was his intention, he was at odds with the theory put forward by the Song neo-Confucian master Zhu Xi, who thought the shang degree should be included in the music.

Zhu Zaiyu's musical writing is, on the other hand, in agreement with the moral definitions of the five degrees, much discussed by Song dynasty theorists. The gong degree, which represents the Emperor, occupies a lower position than the jue degree, which represents the people. The only irregularity in this respect is the occasional introduction of the higher octave gong degree (for example, in Huanghuang zhe hua and Nanyou jiayu), which has the danger of having two Emperors at the same time.

Another feature of Zhu Zaiyu's music is the recurrence of melodic patterns, particularly when the text repeats itself. Poems such as Luming, Huashu, Quechao and Caifan are technically in strophic form. Most of the others contain two melodic patterns, but Youyi and Guanju have four. In any case, he would not have found these ritual pieces the most suitable medium to demonstrate his creativity in music.

Nor could he have thought of using this opportunity to put his theory of equal temperament into practice, owing to the self-imposed limitation of the modes. Ironically, Zhu's innovative tuning concept could have been illustrated easily in the music written earlier by Li Wenchang, which progresses in the manner of a falling fifth or a rising fourth, therefore providing opportunities to involve all twelve semi-tones in the basic octave.

Zhu Zaiyu, therefore, did not consider the authenticity of the music, nor indeed the texts, the most crucial factors affecting the quality of ceremonial music; he was primarily concerned with whether the music was in agreement with his own theory on modes. This subjective approach, a characteristic of the Ming, was in contrast to the heavy reliance on scholarship developed by early Song scholars and culminating in Zhu Xi, and the unprecedented interest in Han textual empirical research in the ensuing Qing dynasty (1644-1911). It is understandable that the new Manchurian rulers would find it hard to put the Ming prince's theory of equal temperament into practice, yet Zhu Zaiyu's idea of drawing inspiration from the Shijing in the re-creation of ancient music was to be developed fully by the Qianlong Emperor (r. 1735-95) of the Qing, who supervised the publication of complete musical settings of the three hundred or so poems in Qinding shijing yuepu quanshu [Imperially Commissioned Complete Collection of Music for the Book of Poetry] in 1788.

Notes

- 1 For example, the opera Zhizou Yan Song 十奏嚴嵩 [Ten Complaints Against Grand Secretary Yan Song] and the 1969 film The Dragon Inn.
- 2 For a detailed comparison between the Method of Triple Division and Zhu Zaiyu's mathematical procedures for equal temperament, see Kuttner 1975:179-88.

Chapter 6 The Qing Dynasty (1644-1911): Reaction Against Song and Ming Neo-Confucian Trends

It was a great shock to the people of the late Ming when the Chongzhen Emperor committed suicide behind the palace walls in Beijing in 1644. If the rebel leader Li Zicheng were to have become the ruler of a new dynasty and to have declared his legitimacy, there would not have been such an overwhelming feeling of treason. The victory of the Manchurian armies from the north-east and their occupation of the Chinese capital had not only demonstrated the Ming's military weakness, but also the inability to maintain a moral order. The establishment of the Qing dynasty has been met with so much resentment during the past 350 years that it has given rise to the idiom fanqing fuming (topple the Qing and reinstate the Ming), meaning, in general terms, the unrealistic desire for the resumption of a former power. The subject has, of course, been fully exploited in Chinese operas, and particularly during the past thirty years, in Cantonese dialect.¹

It was precisely this anti-Manchu spirit that prevented the conquering of the south until 1681, and the present Taiwan two years later (Loewe 1990:41). In addition to the physical resistance, early Qing Emperors had difficulty in consolidating their power, owing to the awkwardness of devising a creditable system of government, which was unimaginable without winning the hearts of civil servants brought up in Confucian tradition. Indeed, there was strong opposition from the educated class, particularly scholars associated with the Donglin group, who were first against corrupt officials of the Ming court, later becoming hostile to their new foreign rulers. Amongst them, Huang Zongxi (1610-95) declined the invitations of the Kangxi Emperor (r. 1662-1722) to serve as an official at the Qing court in 1678 and 1679, while his close friend Wang Fuzhi's (1619-92) anti-foreign sentiment was so strong that he was still regarded as a national hero at the end of the Qing dynasty, and again at the Communist take-over in 1949.

To overcome this difficulty, the first Qing Emperor, who took the title Shunzhi (r.1644-62) had the vision to reopen official examinations two years after he took control, so as to guarantee a good supply of young civil servants (Gernet 1982:473). In addition, his immediate successors made themselves appear as great admirers of Chinese culture: the Kangxi Emperor, amongst other scholarly activities, was responsible for the preparation of the Mingshi (Ming History), Quan tangshi (Complete Tang Poetry), Kangxi zidian (Kangxi Dictionary), Gujin tushu jicheng (The Ancient and Modern Illustrated Collection) and the extended music treatise Lulu zhengyi (Collected Basic Principles of Music), while the Qianlong Emperor (r.1736-95) was even more ambitious in his colossal Siku quanshu (Complete Collection of the Four Treasuries of Literature). His desire for completeness was also realized in music, which led to the publication of his Lulu zhengyi houbian (Continuation of Collected Basic Principles of Music) and Shijing yuepu quanshu [Imperially Commissioned Complete Collection of Music for the Book of Poetry].

Both the Kangxi and Qianlong Emperors managed to gain more credibility by making frequent visits to the provinces near the lower Yangzi. In any case, the tension between the Chinese and the Manchurians was to ease during the eighteenth century, when economic prosperity and military might enabled the Empire to expand to the north and north-west, incorporating Tibet in 1750. Hostility towards the foreign rulers only reappeared in the middle of the nineteenth century during the Taiping rebellion, and again towards the end of the Empire a few decades later.

The collapse of a dynasty had, since the Han dynasty, led to a reappraisal of classical learning, the foundation by which the state could be administered. The most natural course taken by scholars at the transfer of sovereignty in the mid-seventeenth century was to reject the existing theories, which were influenced by Wang Yangming's subjective attitude, itself a derivative of Song neo-Confucianism. Huang Zongxi and his followers believed the best way to acquire true Confucian

ideas was to revert to the classics themselves, or at least to their earliest commentaries, particularly those of Zheng Xuan (127-200) of the Han dynasty. This school of learning, known as Kaozheng xue (School of Verifications and Proofs), emphasized the use of scientific methods to reconstruct authentic ideas of the distant past. Scholars such as Huang Zongxi and Dai Zhen (1723-77) had profound knowledge in mathematics, physics and astronomy. Followers of this school had, in some ways, benefited from the Western scholastic attitude and scientific expertise of the Jesuits employed at the Qing court, particularly during the Kangxi and Qianlong periods.

In spite of the influence of this somewhat impersonal form of Confucian learning, early Qing Emperors saw the merit of the Song neo-Confucianists' idea of moral cultivation as a means to achieve stability. In music, this would have meant a continuous interest in Zhu Xi's Yili jingzhuan tongjie and Cai Yuanding's Lulu xinshu. The Kangxi Emperor found it necessary to include writings of Song philosophers in civil service examinations, and ordered Li Guangdi (1642-1718) to condense the early Ming edition of Xingli daquan (Summa of the Philosophers of Human Nature and of the Principle of Order) into a more concise version, Xingli jingyi (Essential Ideas of the Nature and Principle), in 1715. This more established form of Confucianism was to reemerge as a prominent force, after the Taiping rebellion was suppressed in 1864.

There was a general decline in state sponsorship for publications in the nineteenth century, partly owing to the completeness of the Siku quanshu, and partly owing to unforeseen economic and political problems from the third decade onwards. Scholars were largely divided into two camps. Followers of Gong Zizhen (1792-1841) and Kang Youwei (1858-1927) were reformists who preferred to develop their thinking from New Text School of the Han dynasty, and took a flexible approach to the interpretation of Confucianism, making it compatible with the needs of the time.

On the other hand, Zeng Guofan (1811-72) and Li Hongzhang (1823-1901) were representatives of the School of Statesmanship who favoured the doctrines of the Song neo-Confucians, and were against any drastic changes to established Confucian attitudes. Confucianism was at a point when it had to be decided whether to allow more integration of new elements, and therefore change its nature, or to preserve its tradition but reposition itself to coexist with alien elements, such as technological advances.

This is the era when sufficient interest in the Chinese cultural heritage had been built up amongst Europeans who were closely connected with China. When James Legge of the London Missionary Society published the first of his translations of the Chinese classics in Hong Kong in 1861, he merely saw it as an essential step towards understanding the mind of the people he had to deal with. There was not the slightest hint that he intended to follow the footsteps of Chinese scholars in searching for new ways to interpret Confucian texts. Yet by providing these translations, he had unwittingly adopted the current thinking of Qing scholars who advocated the return to classical texts to appreciate the true meaning of Confucianism.

The attitude to the ritual classics also changed according to social and political ideals of the time. Huang Zongxi's pupils Wan Sida (1633-83) and his brother Wan Sitong (1638-1702) had a special interest in the Zhouli (Rites of the Zhou) and Yili (Book of Etiquette and Ceremonial), owing to the belief that the technical nature of their content could be used to counterbalance the abstract nature of Song and Ming neo-Confucian ideas (Elman 1984:115-16). The philological approach of the Wan brothers enabled them to discover that the Zhouli was written between the fifth and third century B.C., that is, during the Warring States period, therefore bringing an air of realism to a classic that had traditionally been idealized. In spite of this, its text formed the basis of the institutions for the quasi-Christian Taiping Kingdom (1850-64) established by Hong Xiuquan (1813-64), and was again exploited by Sun Yiyang

(1848-1908) in his Zhouli zhengyao [The Essence of Administration in the Rites of the Zhou] published in 1902, as a last effort to justify Confucian rule after the aborted reform in 1898.

Of course, key members of the Jiangjing hui (Society for the Discussion of the Classics) like Huang and the Wan brothers had to scrutinize every detail of the text of the Liji (Book of Rites) as part of their commitment to promote one of the principal tools of Confucianism. Yet the moral and philosophical nature of the classic made it less likely for scholars to derive new ideas from it, no matter how scientific they were in their approach.

The central idea of the Yueji in the Liji, that music was an important quality to guarantee the well-being of the state, was better appreciated in the Qing than in any other dynasty, if one were to consider the degree of imperial involvement in the publication of music treatises. Apart from the historical perspectives of the musical chapters in the Gujin tushu jicheng, the Kangxi Emperor issued an imperial order in 1714 to publish the Lulu zhengyi, so as to standardize a system he considered vital, at the same time giving a personal touch to the sensitive issue. This was further developed by the Qianlong Emperor, who published a continuation of the treatise some thirty years later, ensuring every aspect of performance practice was dealt with according to the ground-work formulated by his grandfather.

Soon after the two parts of the Lulu zhengyi became the authority for musical matters in the mid-eighteenth century, the Qianlong Emperor tightened his control on historical treatises on the subject. Music books endorsed by editors of the Siku quanshu were recopied and incorporated into the collection, while those regarded as controversial, particularly those written in the Ming dynasty, were only mentioned in the index. The Siku quanshu, for example, does not include standard Ming musical treatises written by Li Wenli (fl.1480), Zhang Yu (fl.1538), Li Wenchang (fl.1538-45) and Liu Lian (fl.1550). Many were destroyed in the acquisition process. This

restrictive atmosphere made it futile for later scholars to investigate music theories seriously, in spite of the improved methodology introduced in the late seventeenth century. The easy way out was to develop ideas around the Lulu zhengyi. On the other hand, these events had little influence on Europeans in China, who managed to pursue a broad professional knowledge in Chinese music, leading to the publication of Amiot's Mémoire sur la Musique des Chinois tant anciens que modernes in 1779 in Paris.

Early Qing Developments

Zhao Erxun began his Qing shigao [Draft History of the Qing Dynasty] of c.1928, following traditional practice in compiling retrospective history of a defeated dynasty, by reiterating the close relationship between ceremonial music and effective government, but accepting the hard reality that the proper musical tradition had been lost, owing to the destruction of the Classic of Music in the Qin dynasty (221-206 B.C.) (94.2731). The result was, of course, the proliferation of decadent music, or the music for the states of Zheng and Wei, as described in the Yueji. On New Year's day in 1644, the first Qing Emperor Shunzhi (r.1644-61) followed the advice of Zhang Cunren in putting a halt to the performances of operas, so as to maintain the dignity of the important occasion (Qing shigao 94.2733). The same passage describes how the Emperor ordered his ministers Feng Quan and Hong Chengchou to change the title of existing ceremonial music to Ping (peace), at the same time reestablishing institutions for the performance of various rituals.

The Conservative Ideas of Ying Weiqian (1615-83)

It is understandable that the beginning of any dynasty might not be the best time to introduce radical ideas. A case in point is the music treatise written by Ying Weiqian (1615-83), a stubborn scholar-official of the late Ming, who chose not to

serve the Qing court, but devoted himself to the continuation of the neo-Confucian tradition of Cheng Yi and Zhu Xi of the Song dynasty. His Gu yueshu [Ancient Music Classic] was based on the theory of pitches discussed in Cai Yuanding's Lulu xinshu, emphasizing the merit of determining pitches by the method of Watching for the Ethers, and the importance of six additional bian pitches to lessen the inaccuracies of tuning by means of the Method of Triple Division. If he had adopted the pitch standard of the Ming, his huangzhong would have been 298.7 Hz (d¹⁺) (Yang 1952:300), but there is no information on this matter.

Ying thought music should match the heavenly and earthly forces (qi), and therefore should not be too slow, too fast, too strong, nor too weak (Gu yueshu 1.71a). Such a concept is in agreement with the spirit of the ideal form of ceremonial music described in the Yueji (Liji 38.5b). His perception of force did not break any new ground: it deviated little either from the abstract concept associated with exemplary human behaviour in the writings of Mencius, or from the more recent definitions of Song neo-Confucians of a quality which united matter in a universal sense. The implication was that music created according to these rules would assume a didactic role, owing to the want of any expression.

Like the Song theorists, Ying paid special attention to the position of the gong degree, a concept derived from the Yueji. He emphasized the importance of the middle range (zhongsheng), and regarded it vital for the gong degree, which represented the Emperor, to be fixed to the pitches between huangzhong and yingzhong, so that it could occupy a central position (Gu yueshu 1.71b). He strengthened his argument by quoting the writings of Ming scholars Li Zhizao and Li Wenchang extensively (Gu yueshu 1.77b-81b).

When this idea was applied to the construction of court instruments such as the bianzhong and bianqing, it led to the suggestion of sixteen bells and sonorous stones, including twelve from the basic octave, and huangzhong, dalü, taicou and

jiazhong from the higher octave, for each frame (Gu yueshu 2.13b). Such a concept came into existence in the early Song dynasty, and enabled court musicians to stay within the confines of propriety by not allowing the second degree shang (ministers) and the third degree jue (people) to be lower in pitch than the first degree gong in certain modes.

Ying Weiqian was aware of Zhu Xi's serious doubts about the authenticity of the twelve ritual songs, claimed to be of Tang origin, in his Yili jingzhuan tongjie. He went a step further than Zhu in challenging their appropriateness by examining their modes. In order to be more convincing, he quoted four of them in the sequence of Luming, Simu, Guanju and Getan, from Zhu Xi's treatise, and pointed out that the first two songs should not have been written in the gong mode of the higher octave huangzhong (qing huangzhong) (Gu yueshu 1.75a). He thought these settings were inappropriate because the gong degree did not occupy a central position, as it fell outside the middle range, putting the authority of the Emperor at stake. The other two songs, written in the shang mode of the higher octave wuyi (qing wuyi), also proved to be unacceptable to Ying, the reason being such a mode would lead to an excessive use of higher octave pitches (qingsheng), the source of licentious music (Gu yueshu 1.76a-76b).

Ying also criticized the way that Zhu Xi's melodies were written. He disapproved of the wide leaps and random ordering of pitches in Luming, and made a special reference to the first two lines of the song. No matter how convincing his moral ideas were, he showed his ignorance in basic musical knowledge by misreading the opening qing huangzhong degree as huangzhong, and wrongly remarked that the first interval of the gap of ten pitches (lu) was unacceptable (Gu yueshu 1.77a).

*The New Modal Concept of Mao Qiling (1623-1716)
and Li Gong (1659-1733)*

One of the most striking writers on music active during the reign of the Kangxi Emperor was Mao Qiling (1623-1716), whose wide interest had enabled him to become a member of the editorial board in the compilation of the Mingshi (Ming History) after a special civil service examination (Hummel 1943:563). His music treatise Jingshan yuelu [Jingshan's Music Collection] of c.1680, named after his father, is also known as Guyue fuxing lu [Music Collection Related to the Revival of Ancient Music], which reflects its content. He held the musical section of the Zhouli in high esteem owing to his belief that it preserved the essence of ancient music, yet he was less enthusiastic about the Yueji in the Liji, for its lack of information concerning performance (Jingshan yuelu 3.19a). This approach is akin to the practical orientation of the Song and Ming theorists.

Mao was optimistic that ancient music had not disappeared: "Music is closely connected with the human voice. Is it possible for the human voice to disappear altogether? Since the Han dynasty, theorists did not appreciate the importance of discovering music through sound, and made wrong hypotheses, leading to the demise of music." (Jingshan yuelu 1.3a) He therefore did not believe in discussing music in the abstract without reference to music itself. He was against writers of Apocryphal Books who made use of non-musical qualities such as Five Phases (wuxing), Five Affairs (wushi), Five Emotions (wuqing), Five Forces (wuqi), Five Hours (wushi), Five Kingdoms (wutu), Five Positions (wuwei) and Five Colours (wushi) (Jingshan yuelu 1.3b). He went on to dismiss most correlative theories, particularly those associated with yingyang and complicated calendrical calculations, and suggested pitches must be determined prior to other related qualities, such as instruments, numbers, and standard measurements for length, volume and weight (Jingshan yuelu 1.4a-4b). He was against most theorists after Sima Qian and Ban Gu of the Han dynasty, thinking in line with other Confucian scholars of the early Qing. In fact,

Mao thought music was such an independent quality that it was possible to dispense with the traditional names of the five degrees, and replace gong, shang, jue, zhi and yu by the numbers one, two, three, four and five (Jingshan yuelu 4.1a-1b).

Mao had so many reservations about existing music theories that he had to formulate his own system of degrees and modes:

There is a step between gong and shang, which is the right way for these degrees to be organized. The Yueji says: "Gong represents the Emperor and shang the ministers." It clearly means there is a difference between them. The superiority of the Emperor makes him separate from the ministers and people. When their corresponding degrees (gong and shang) are put together, there should be a pitch in between, otherwise the effect will not be harmonious. This is a natural phenomenon which cannot be altered. On the other hand, the shang, jue and zhi degrees should be close together, and hence there should not be any pitches in between. This is because hierarchy is a less important issue concerning ministers, people and affairs. There is, however, a pitch between the degrees zhi and yu, because affairs of the people are more important than matter.

(Jingshan yuelu 2.3b-4a)

Mao did not seem to mind making non-musical associations of the five degrees in the passage concerning the hierarchies of the state in the Yueji, as other theorists had done since the Song dynasty. While most theorists had so far been mainly concerned with the correct order of the first three degrees gong, shang and jue, Mao gave utmost priority to the gong and ranked the yu as the least important. If huangzhong (C) is taken as gong, the five-degree mode becomes a symmetrical pattern which only covers the range of an augmented fourth, and quite different from the traditional arrangement:

Gong	Shang	Jue	Zhi	Yu
Huangzhong (C)	Taicou (D)	Jiazhong (Eb)	Guxian (E)	Ruibin (F#)

Having established the five degrees, he went on to propose his own version of the seven degrees by adding biangong between gong and shang, and bianzhi between zhi and yu, again different from the traditional definition of the bian degrees

(Jingshan yuelu 1.8a). Mao's seven degree mode is chromatic and therefore also symmetrical, and it does not extend beyond the range of his pentatonic mode:

Gong	Biangong	Shang	Jue	Zhi	Bianzhi	Yu
Huangzhong (C)	Dalu (Db)	Taizou (D)	Jiazhong (Eb)	Guxian (E)	Zhonglu (F)	Ruibin (F#)

The same source discusses the nine-degree mode, considered the most important contribution of Mao by editors of the Siku quanshu (Siku quanshu zongmu 328). Again, it is based on the five-degree mode, with four additional degrees qinggong, qingshang, qingjue, qingzhi, which are a fifth higher than their corresponding gong, shang, jue and zhi, and are different from the established definition of qing being pitches an octave higher:

Gong	Shang	Jue	Zhi	Yu
Huangzhong (C)	Taizou (D)	Jiazhong (Eb)	Guxian (E)	Ruibin (F#)

Qinggong	Qingshang	Qingjue	Qingzhi
Linzhong (G)	Nanlu (A)	Wuyi (Bb)	Yingzhong (B)

To exhaust all possibilities, Mao added biangong, bianzhi and qing biangong to make the twelve degree mode, which was essentially identical to the twelve pitches of the basic octave (Jingshan yuelu 1.18a-18b):

Gong	Biangong	Shang	Jue	Zhi	Bianzhi
Huangzhong (C)	Dalu (Db)	Taizou (D)	Jiazhong (Eb)	Guxian (E)	Zhonglu (F)

Yu	Qinggong	Qing biangong	Qingshang	Qingjue	Qingzhi
Ruibin (F#)	Linzhong (G)	Yize (Ab)	Nanlu (A)	Wuyi (Bb)	Yingzhong (B)

He considered the nine-degree mode as the natural and hence most important, and justified this by claiming its association with the Nine Palaces (jiugong), and Qu Yuan's (d.277 B.C) poetic work Chuci (Elegies of Chu), which had the sub-titles Nine Songs (Jiuge), Nine Rules (Jiuze), Nine Chapters (Jiuzhang), Nine Debates (Jiubian) and Nine Sighs (Jiutan) (Jingshan yuelu 1.10b-11a).

To ensure that he also had a mathematical basis, he quoted a passage from the Guanzi (Book of Master Guan), a fourth century B.C. source, and worked out the calculations in a highly personal way:

Guanzi has said, "When the five degrees are to be formed, it is necessary to begin with the number one and get to three, and then multiply the number four times to get the result of nine times nine." Yet one and three makes four. If the notion of four is combined with the five degrees, it makes nine. This idea of five degrees and four higher pitches has been established long ago.

(Jingshan yuelu 3.1a)

The standard interpretation of this Guanzi passage was to take it as a way to represent the fundamental pitch huangzhong numerically, in the manner of $1 \times 3 \times 3 \times 3 \times 3 = 1 \times 3^4 = 9 \times 9 = 81$. Mao's way of juggling with these numbers was to change the multiplication relationship to that of addition, so as to arrive at the number nine, his ideal number of pitches for a mode. However, this somehow invites criticism for being too dependent on non-musical qualities in discussing musical matters. He obviously thought the nine-degree mode had the advantage of accommodating four higher pitches (qingsheng), an important issue in the Northern Song dynasty.

Mao ventured briefly into the discussion of modes in the Zhouli passage concerning the sacrificial rituals for heavenly, earthly and human spirits. He disagreed with the established idea that the absence of shang mode in music for these rituals meant the mode was avoided deliberately in the Zhou dynasty; he merely thought each mode mentioned in the classic referred to a section complete in itself, and it was therefore pure coincidence that shang mode was absent (Jingshan yuelu

1.9b). This is, in a way, quite a fair evaluation, at least from a musical point of view. Yet his idiosyncratic way of formulating modes and fixing the musical range means the dismissal of nearly all existing music theories and practices, making his ideas less acceptable, no matter how skilful he was in accommodating the meaning of the musical passages in the classics.

Mao Qiling's ideas on music had much influence on his pupil Li Gong (1659-1733), who published his Lishi xueyue lu [Li's Collection of Music Learning] in 1699. Li accepted Mao's highly personal concept of the seven-degrec mode, one that was partly based on the hierarchies of the state in the Yueji, and covered, for example, in the gong mode of huangzhong, pitches from huangzhong to ruibin, a range equivalent to an augmented fourth, with little alterations (Lishi xueyue lu 1.25b). However, Li tried to gain more credibility for his modal theory by proving it was compatible with the musical practices described in the Zhouli: "The Six Pieces of Ancient Music could theoretically be performed with the present system of seven modes, provided the yu mode is not used, and each ancient piece is assigned a different mode." (Lishi xueyue lu 1.23b)

Having excluded the use of the yu mode, it was necessary for Li to explain why the sacrificial rites for heavenly, earthly and human spirits in the Zhouli included music in yu mode but not in shang mode:

When the Zhouli refers to gong, jue, zhi and yu, it presumably means the four higher pitches. In other words, this is what Guanzi meant by multiplying the number by itself four times...What the classic meant was not to use the higher yu mode (yu qing), which could be taken as not using the higher shang mode (shangqing). It is therefore also possible to say "avoid yu and the four higher modes", or simply name one of the four higher modes.

(Lishi xueyue lu 1.23b-24a)

No matter how obscure the meaning of the passage is, it shows Li Gong had accepted Mao Qiling's idea of using four higher pitches (qingsheng), and the latter's reasoning with reference to Guanzi. Mao's four higher pitches were, of course, gong, shang, jue and zhi, and were different from the four pitch names mentioned in the

classic. Yet Li thought the classic's omission of the higher shang mode should be interpreted as the omission of all modes on the four higher pitches, including yu. This is hardly a convincing argument.

Li Guangdi (1642-1718) and His Interpretation of the Ritual Classics

The somewhat eccentric theories of Mao Qiling and Li Gong were to be superseded by those of a more authoritative figure, Li Guangdi (1642-1718), who became Grand Secretary in 1705, and was in charge of the compilations of official editions including Yucuan Zhuzi quanshu (The Imperial Complete Collection of the Works of Zhu Xi), Xingli jingyi (Essential Ideas of the Nature and Principle) and the music treatise Lulu zhengyi (Collected Basic Principles of Music). His personal views on music, a subject he had mastered since he was seventeen, were discussed in Guyue jingzhuan (Canonical Book and Commentaries on Ancient Music). The draft was unfortunately destroyed by a fire in 1705, but Li managed to recover most of it three years later, and it was completed by his grandson Li Qingzhi in 1726.

Although there are few original ideas in Li's Guyue jingzhuan, this book was known to influential theorists in Europe in the eighteenth century, owing to the French Jesuit Amiot, who sent a translation of the work to M. de Bougainville, the secretary of the Académie des Inscriptions et Belles-Lettres, through his superior, the Procurator of the Chinese Mission, Father De Latour. Although Amiot's translation has apparently disappeared, it was seen by a number of writers (Tchen 1974:c.ii). The Abbé Arnaud made some use of it in his article in the Journal étranger on Chinese dances. He also published a translation, allegedly by Li Guangdi, in the same journal in July 1761. Amiot, however, disapproved of the content, owing to the changes made to his work.

Rameau also mentioned the translation of Li Guangdi in his Code de Musique pratique, published in 1760, but misunderstood the date of composition of the

original. Rameau, being no sinologist, imagined the fire that had destroyed most of Li Guangdi's work in 1705 to be the famous destruction of books some two thousand years earlier in the Qin dynasty (221-206 B.C.), and therefore believed the work to have some relation to the music tradition of the ideal past (Rameau 1760:189).

Li's position as Grand Secretary must have strengthened the credibility of his music treatise, particularly in the minds of Europeans, owing to the assumption that it would represent the most orthodox views of the time. This was, however, not quite the same at home. The title Guyue jingzhuan suggests a scholarly work based on the study of classical texts for the revival of ancient music. Li's main sources of inspiration were drawn from the Zhouli and Yueji in the Liji. Editors of the Siku quanshu were polite about his scholarship, but criticized Li for ignoring Han commentaries in the interpretation of the Zhouli (Siku quanshu zongmu 327).

Otherwise, Li's ideas were not very controversial. He regarded music as a quality related to matter (li), force (qi), shape (xing) and numbers (shù), the first two summing up the neo-Confucian approach, particularly that of Zhu Xi and Cheng Yi, to the basic structure of myriad things in the universe (Guyue jingzhuan 4.53b). Like the Song dynasty masters, Li Guangdi regarded force as the essential quality forming matter, including pitches and shapes, which are governed by numbers. What he tried to point out was pitches should be standardized before length, weight and volume, which could then be determined according to the numbers related to pitches (Guyue jingzhuan 4.56a-56b).

Li disapproved of Cai Yuanding's way of determining the fundamental pitch huangzhong by the method of Watching for the Ethers, and identified three important sources to facilitate the process:

Well-read Confucian scholars understand the origin of pitches and force. Performers who know their skills are able to tell the differences between pitches. Mathematicians understand how pitches could be expressed in numbers. While the advice of these people is useful, one should also be

acquainted with all ancient musical practices. Correct pitches could then be determined from within the heart.

(Guyue jingzhuan 4.60b-61a).

Li appeared to be advocating an objective approach to pitches, with the involvement of people mastering the moral, practical or theoretical aspect of music. Yet the final step of the process was highly subjective, with little reference to the objective standards mentioned, echoing the idea of Wang Yangming of the Ming dynasty.

Li's understanding of the passage in the Yueji of the Liji (37.5a) concerning the moral order of the state affected the way he interpreted what gong, shang, jue, zhi and yu should be. Unlike some Song theorists, who maintained a strict musical relationship between the first three of them, he reverted to the moral approach of the text itself, and was therefore nearer to Han dynasty practice. Each of them could either mean a mode, and therefore the different levels of stability in the administration of the state, or a degree, the level of respect generated from the heart of an individual. For example, the gong mode represented the orderly rule of the Emperor, while the gong degree represented the kind of respect expected from an individual to the Emperor (Guyue jingzhuan 2.5a-5b).

The most controversial aspect of Li's music treatise could arguably be his treatment of the musical passage in the Zhouli, which he considered as the Classic of Music discovered by the Han Emperor Wendi (r.179-164 B.C.) (Guyue jingzhuan 1.1a). While there is nothing against the way he had followed Han scholars in providing commentaries for the classical text, he took a liberal view in changing two key words of the passage concerning the modal prescriptions of the music for sacrificial rituals of heavenly, earthly and human spirits, following the footsteps of Zhang E and Zhu Zaiyu in the Ming dynasty. He substituted huangzhong for the original huanzhong in the heavenly sacrifices, while doing the opposite for earthly sacrifices, changing the original huangzhong to huanzhong:

Pitches/Modes in Zhouli	Li Guangdi's Interpretation of Zhouli
Sacrificial Ritual for Heavenly Spirits	
Huanzhong as Gong	Huangzhong is Gong
Huangzhong as Jue	Huangzhong is Jue
Taicou as Zhi	Taicou is Zhi
Guxian as Yu	Guxian is Yu
Sacrificial Ritual for Earthly Spirits	
Hanzhong as Gong	Hanzhong is Gong
Taicou as Jue	Taicou is Jue
Guxian as Zhi	Guxian is Zhi
Nanlu as Yu	Nanlu is Yu
Sacrificial Ritual for Human Spirits	
Huangzhong as Gong	Huanzhong is Gong
Dalu as Jue	Dalu is Jue
Taicou as Zhi	Taicou is Zhi
Yingzhong as Yu	Yingzhong is Yu

(Guyue jingzhuan 1.7b-8a)

Judging from the changes he had made, Li was probably more of a classical scholar than a musician. He had basically been looking for inconsistencies between this Zhouli passage and another passage concerning the performance of the ancient piece Yunmen for the ritual of heavenly spirits and the Four Directions, that is, "play huangzhong, sing dalu" and "play guxian, sing nanlu". In order to make the modes

of the two passages match, he put forward the idea that huanzhong, the mode for heavenly sacrifice, was wrongly introduced to the classic by Han scholars, who were worried about the two consecutive appearances of huangzhong in the passage "huangzhong as gong, huangzhong as jue", leading to the wrong character huan being substituted (Guyue jingzhuan 1.8b).

Li went on to explain the meaning of each mode mentioned in each ritual, taking particular care for those concerning the heavenly spirits:

Huangzhong as gong means the gong mode of huangzhong; it should begin and end with the pitch huangzhong. Huangzhong as jue means the jue mode of huangzhong; it should begin and end with the pitch guxian. Taïcou as zhi means the zhi mode of taïcou; it should begin and end with the pitch nanlu. Guxian as yu means the yu mode of guxian; it should begin and end with the pitch dalü.

(Guyue jingzhuan 1.8b-9a)

Li's interpretation of the pitch names in the classical passage was to take them as the gong degree of each of the modes described, as in the case of Liu Ji of the Northern Song dynasty, rather than the more straightforward case of representing the cadencing pitches of gong, jue, zhi and yu modes. Huangzhong and dalü, Li's cadencing pitches for the first and fourth modes, match the same two modes mentioned in the passage concerning the performance of Yunmen for heavenly sacrifice. Similarly, the second and third modes guxian and nanlu match the two modes of the ritual for the Four Directions. Li was obviously not so much concerned with the musical effect of the text; he was happy as long as there was a logical explanation to the designation of modes. The idea of changing the first mode from huanzhong to huangzhong came from the Han historian Ban Gu, whose Hanshu (History of the Han Dynasty) described huangzhong as the pitch for heaven, linzhong for earth and taïcou for human beings. Ban Gu's theory was observed by the ritual department of the Qing court (Qingshi gao 94.2746-47).

Apart from this passage, Li Guangdi had little to add to the existing commentaries on the classic accumulated since the Han dynasty, in line with the spirit

of the scholarship of the early Qing dynasty. His style is more akin to Zheng Xuan of the Han, who is noted for his brevity, than Tang dynasty commentators such as Jia Gongyan or Kong Yingda, who are remembered for their attention to fine details. Li's scholarly approach to authoritative texts on music enabled the readers to pay more attention to the texts, or their early commentaries, rather than being distracted by complicated scholastic theories put forward since the Song dynasty. This was presumably what Amiot must have felt about the Guyue jingzhuan.

The Lulu zhengyi (1714-45) and the Early Qianlong Period

The Attempt to Standardize Musical Ideas

Li Guangdi's scholarship was appreciated by the Kangxi Emperor (r.1662-1722), who ordered him and other scholars, including three of the Emperor's sons, and Jesuits Thomas Pereira and Theodoricus Pedrini, to compile the music compendium Lulu zhengyi (Collected Basic Principles of Music), one of the most important musical treatises of the early eighteenth century, or indeed of the Qing dynasty. The entire work is divided into 135 chapters and organized into two parts. Part I consists of five chapters, four of which were completed in 1714, with a supplemental chapter (xubian) on Western music written by the Jesuits added soon after. These chapters, together with Lixiang kaocheng [Investigations Into Calendrical Calculations] and Shuli jingyun [Essence of Science and Mathematics], form a complete trilogy of Luli yuanyuan (Ocean of Calendric and Acoustic Calculations), setting the standards of measurements and pitches according to the desire of the Qing court, a tradition particularly valued by the ruling Manchurians. Part II of the Lulu zhengyi, comprising 128 chapters and two introductory chapters, was completed in 1745 under the auspices of the Qianlong Emperor, and was entitled Lulu zhengyi houbian (Continuation of Collected Basic Principles of Music).

Writers involved with the Lulu zhengyi took the most obvious path in establishing their credibility by admitting the authority of Confucian classics,

particularly the musical sections in the three ritual classics. The Zhouli was regarded as the notional Classic of Music, a thinking in line with a number of Ming theorists including Zhu Zaiyu (Lulu zhengyi houbian Introduction 1.13a). The technical details of the text allowed the officials to declare the establishment of a musical system with at least some relationship to the ideal past. Similarly, the Yili provided a frame-work for the setting of twelve poems from the Shijing (Book of Poetry) in the District Drinking Ceremony (Xiang yinjiu li), in the manner of the music recorded in Zhu Xi's Yili jingzhuan tongjie (Complete Explanation of the Classic of Etiquette and Its Commentaries) (Lulu zhengyi houbian 127.6a-28a). Although the Yueji in the Liji occupies a significant position in the music compendium, the approach has largely been scholastic: the entire text is quoted, with an extended report on its origin (Lulu zhengyi houbian 79.13a-36b).

Some time before the Kangxi Emperor decided to compile a standard treatise on music, he had not been satisfied with the existing ways of determining pitches, and ordered his senior ministers to discuss the issue at the Qianqing Palace in 1692. He was particularly concerned with the inaccuracies of Cai Yuanding's measurements of the length of the fundamental pitch huangzhong as nine inches and its circumference as 0.9 inch, owing to his belief that the standard of the Qing rule was different from those of previous dynasties. Yet once the correct huangzhong was determined, he reckoned the other eleven pitches of the basic octave could be generated by the Method of Triple Division (Qingshi gao 94.2738). This is a clear indication that Zhu Zaiyu's theory of equal temperament, if considered at all, was rejected at an official level, long before the appearance of the Lulu zhengyi.

The Emperor's view of huangzhong was taken up and developed by Wang Lanzheng, a pupil of Li Guangdi, who was involved with the publication of the Lulu zhengyi. Wang's way of finding the fundamental pitch was similar to Song theorists such as Hu Yuan and Ruan Yi, which involved tangible measuring standards such as

millet grains and the standard rule. Yet he made an assumption that the ten-inch ancient rule was equivalent to 8.1 inches of the Qing rule, because one hundred millet grains measured sideways was equal to eighty-one of them measured vertically. The conclusion was: the nine-inch huangzhong pipe based on the notional ancient rule became 7.29 inches of the Qing dynasty standard (Qingshi gao 94.2740). This was the measurement adopted by the Lulu zhengyi (4.63a), equivalent to 344.4 Hz. (f¹) (Yang 1952:311).

Cai Yuanding's trial and error method of subjecting a number of pitch-pipes in close succession to the method of Watching for the Ethers was rejected, so was the verification of the fundamental pitches through this process, on a scientific basis:

At winter solstice, the masculine force (qi) would have risen four thousand miles (li) from the centre of the earth. It is still eight thousand miles from the earth surface, and it is impossible for a nine-inch pitch-pipe to meet this force, even if its entire length is planted in the soil. One could also believe the masculine force originates at the centre of the earth at the beginning of snowing (xiaoxue) of the tenth month, reaching its surface at winter solstice a month later, travelling twelve thousand miles per month, or four hundred miles a day. Yet there is only a difference of an inch between the nine-inch huangzhong and the eight-inch taicou pipes. It is illogical that these two pitch-pipes should not respond to the masculine force at the same instant.

(Lulu zhengyi houbian 120.38a)

Such an argument has an immediate appeal to a modern scientist, owing to the proximity of the assumed radius of the earth of 12,000 li (6,000 km) to its verified radius of 6,370 km. The subtle difference between the lengths of the pitch-pipes involved in the experiment is negligible compared with the speed of the masculine force, the source of energy for the experiment. It is, of course, another matter if the force involved is not of the same magnitude as the kind suggested by Cai Yuanding.

Lulu zhengyi's reference to the Zhouli in the discussion of transpositions based on string instruments serves as a useful introduction to the modal structure endorsed by the Qing court. The music of the heavenly, earthly and human sacrificial rites in the classic is mentioned, together with an interpretation of the meaning of the classical text, mixing original Qing ideas with those of the Han:

Of the three rituals, the heavenly one takes huangzhong as gong. This means the music starts with the gong degree huangzhong taking the position of the yu, while the jue degree guxian takes up the position of gong. This is the meaning of gong mode. The human ritual takes taicou as gong. This means the music starts with the shang degree taicou taking the position of the yu, while the bianzhi degree ruibin takes up the position of gong. This is the meaning of shang mode. The earthly ritual takes linzhong as gong. This is the zhi degree in string instruments, which is equivalent to yize taking the position of the yu, while the biangong degree higher octave huangzhong takes up the position of gong. This is the meaning of zhi mode.

(Lulu zhengyi 2.56b-57a)

The Lulu zhengyi obviously takes the modes huangzhong, taicou and linzhong from Ban Gu's Hanshu and applies them to the relevant sacrificial rituals in the Zhouli, as Li Guangdi had done in his Guyue jingzhuan. Yet the gong of these modes is interpreted as guxian, ruibin and higher huangzhong, a far cry from the original. Such an idea also ignores the orthodox interpretations of Zhu Xi and Zhu Zaiyu. This is done in order to accommodate the Qing system of naming the mode-keys of ceremonial music with a gong pitch and a lower octave yu pitch (Chen Fuyen 1975:111-12).

The lower octave yu and gong degrees are therefore four pitches apart, one pitch more than their traditional relationship. In fact, the Lulu zhengyi outlines a modal system which makes use of the seven existing degree names gong, shang, jue, bianzhi, zhi, yu and biangong, but keeping all adjacent degrees two pitches apart, in the manner of a whole-tone scale. When the gong degree is fixed to huangzhong (C), the pitches from the starting pitch lower octave yu to the yu are as follows:

Degrees	Lower Yu	Biangong	Gong	Shang
Pitches	Lower Yize (Ab)	Lower Wuyi (Bb)	Huangzhong (C)	Taicou (D)

Jue	Bianzhi	Zhi	Yu
Guxian (E)	Ruibin (F#)	Yize (Ab)	Wuyi (Bb)

(Lulu zhengyi 2.47a-47b)

In a traditional seven-degree mode, the degrees double themselves at the distance of twelve pitches, or an octave, but the mode outlined in the Lulu zhengyi extends its range for two more pitches, owing to the new interpretation of the biangong and bianzhi degrees. It is therefore theoretically easier to transpose, because octave doubling of degrees and pitches do not coincide (Chen Wannai 1978:77). The lower yu degree in the above example is fixed to lower yize, while the yize an octave higher is the zhi degree. There is another advantage of this whole-tone relationship: it enables the maintenance of the same gender amongst different degrees within the same mode (Chen Wannai 1978:76). When the gong degree is fixed to a masculine pitch such as huangzhong, the other degrees are also masculine. The same relationship applies when the gong is fixed to a feminine pitch like dalü.

The Lulu zhengyi holds the traditional view that the fundamental pitch huangzhong represents the Emperor, and therefore the gong degree should be pitched to it. The treatise, however, objects to the pitch being used as the shang degree, on the ground that the position of huangzhong as gong, and hence the Emperor, should never be lowered to that of a minister, an idea derived from the moral definitions of the five degrees in the Yueji of the Liji. Yet huangzhong can still be used as the jue, zhi and yu degrees, owing to the belief that the Emperor is at all times in full control of his people, affairs and matter, the qualities these degrees represent (Lulu zhengyi houbian 120.3b). In order to avoid any intrusion on the Emperor, the gong degree should not be pitched to wuyi. The determination to undermine the importance of the shang degree is akin to the modal theory discussed in Li Wenchang's Guyue quanti in the sixteenth century. Yet the Qing rulers would have been concerned with the general control of the officials, rather than limiting their attention to powerful eunuchs and corrupt officials, as in the Ming.

The range of the bianzhong and bianqing suggested in the Lulu zhengyi is sixteen pitches, a number widely accepted since the Song dynasty (Lulu zhengyi

houbian 62.32a). Yet the bells in the Qing compendium consist of twelve in the basic octave and four lower pitches of yize, nanlu, wuyi and yingzhong, and are very different from the Song arrangement of twelve in the basic octave and four higher pitches of huangzhong, dalü, taicou and jiazhong. The logic behind the inclusion of four bells in the lower octave lies in the association of the gong degree with the idea of middle sound (zhongsheng), proper sound (zhengsheng) and sound of the Emperor (junsheng), which must be positioned in the middle, with four pitches below it (Lulu zhengyi houbian 118.21a-22a). Centrality was, after all, an important visible as well as conceptual position the Manchurians had been trying to attain after their military success in the mid-seventeenth century.

This is also related to the Qing practice of beginning a piece of ceremonial music with a degree other than the gong, and frequently the yu. Such a concept is claimed to have derived from the tradition of court entertainment music in the Song dynasty, according to the Shijing yuepu commissioned by the Qianlong Emperor (Qinding shijing yuepu quanshu Introduction.3b). Either Chen Yang's theory of twelve bells or sonorous stones for each frame or Hu Yuan and Ruan Yi's use of four additional bells in the higher octave make the gong degree the lowest pitch, therefore not fulfilling this particular Qing condition.

In spite of the high regard given to the Zhouli, the Lulu zhengyi does not accept the Han and Tang interpretations of the leigu, linggu and lugu used in heavenly, earthly and human sacrifices as drums of eight, six and four sides, and simply states there is no way to give a correct definition to these terms (Lulu zhengyi houbian 66.31a). It goes on to describe how these drums are to be used in Qing dynasty ceremonial music: they are played at the end of a vocal stanza to stop the music, and, after a short break, to re-start the music. The focus is on how these drums should be played, but not what they are. In a way, the attitude is similar to

that of Zhu Zaiyu, who considered them as ordinary drums, but with decorations of clouds, four rare animals and birds (Yuexue xinshuo 28-33).

The Lulu zhengyi includes musical settings for Yili's District Drinking Ceremony, presented in a manner similar to the twelve poems from Zhu Xi's Yili jingzhuan tongjie (Lulu zhengyi houbian 55.9a-56.44b). Yet the Lulu zhengyi goes a step further in providing music in yu mode of wuyi for the annual ceremony held in the first month, and music in yu mode of linzhong for the ceremony in the tenth month, with the gong degrees fixed to masculine pitch taicou and feminine pitch yingzhong according to the official modal system.

The musical settings of the twelve poems for the ceremony in the first month (Appendix 7) preserve the syllabic style in Zhu Xi's treatise, which was, ironically, rejected by the Song dynasty master as inauthentic. In spite of the endorsement of the seven-degree mode in the earlier chapters, the melodies are pentatonic within the whole-tone system, involving only gong, shang, jue, zhi and yu degrees. Since the gong degree is adjusted to taicou, a masculine pitch, the other degrees are also of the same gender. All pieces are in yu mode, beginning with the same degree and leading to the gong degree, and leading from the gong to the yu at the end, according to the theory of the close relationship between the two degrees. The feeling of the yu mode is made stronger by the frequent practice of ending a piece with the first four opening pitches in the reverse order.

All poems are set within the range of an octave, from the lower octave of wuyi to wuyi, narrower than that adopted in Zhu Xi's settings. In terms of degrees, the range stretches from lower yu to zhi according the system described in the Lulu zhengyi. This arrangement, of course, allows the gong degree to occupy a central position owing to the presence of the lower yu degree, itself four pitches below the degree which represents the Emperor. The restriction of the range to an octave also means that there is never any danger of the shang and jue degrees falling below the

gong, alleviating the danger of intrusions of the ministers and people on the Emperor. The lower yu degree frequently leads to the zhi, and vice versa, making the leap less conspicuous aurally, owing to the octave relationship. This close musical relationship also results in the zhi being the most common degree to end a stanza.

Zhu Zaiyu's effort in inventing new texts and music for the six textless pieces for the sheng (shengpu) named in the ceremony is recognized and further expanded to accommodate the two modes designated for performances in the first and tenth months (Lulu zhengyi houbian 127.11b-27b). In addition, the Lulu zhengyi includes introductory and concluding instrumental pieces for the sheng (Lulu zhengyi houbian 127.11a-11b; 18b-20b; 27b-28a). The reason for going through this tedious process of invention is to compensate for the loss of the ancient tradition of singing from the Han through the Tang and Song dynasties, mainly owing to the attempt to sing at the same pitch levels of instrumental accompaniment, therefore distorting the optimum range of the human voice (Lulu zhengyi houbian 127.3a-3b). Singers need not go through all the fourteen pitch-modes of the Qing system, but are advised to "choose the medium range (zhongsheng), so that they do not have to use excessive breath to disturb the teeth and faces, and can still produce high and low pitches naturally, which are in harmony with heaven and earth." (Lulu zhengyi houbian 127.4b) The idea of such an idealized range is similar to that presented in the Yueji (Liji 37.14a).

There are two versions for each of these invented poems, one for voice and the other for the sheng (Appendix 8). While the voice part is strictly syllabic, the sheng part includes two successive pitches set to the same word in each poem. This is deliberate, according to the Lulu zhengyi, owing to the desire to respond to Zhu Xi's criticism of the twelve songs in the Yili jingzhuan tongjie being inauthentic for the lack of multiple pitches for each word. The same passage also suggests using the xiao, di and qin in addition to the sheng in the instrumental version, so as to allow

high and low pitches to mix at the same instant, and, in the case of the qin, the presence of fingered tone as well as harmonics (Lulu zhengyi houbian 127.7a-7b).

Like the settings for the twelve poems, the six additional shengpu are written within the range of an octave, that is, from the low yu degree to zhi in the Qing official system. As outlined in the Lulu zhengyi, the instrumental part is more decorative than the voice part, with two pitches set to the same word occasionally, which, by and large, relate to the pitch set to the voice, either having one of them in unison with vocal pitch, or with its octave doubling. While the outline of the voice part is preserved, particularly in the beginnings and endings, some of its pitches are replaced, and in certain cases by pitches an octave higher, making it possible for the qin to play harmonics at these places. Otherwise, the differences between the vocal and instrumental parts can simply be taken as means to add variety to the original melody.

The introductory and concluding pieces for the sheng are written in the same style as the six additional shengpu, or indeed the twelve musical settings of the poems in the Yili. There is, however, a marked emphasis on the yu degree and its octave pitch zhi throughout, with the obvious intention to strengthen the feeling of the principal pitch for the mode. In other words, the zhi degree has the same musical effect as the lower yu, in spite of the differences they might have in traditional moral connotations.

In spite of the reference to the classics in the formulation of the musical system in the Lulu zhengyi, writers of this Qing dynasty musical treatise were aware of the liberty they had in extracting and interpreting classical texts to reinforce any changes to an existing system. The blessing of the Kangxi and Qianlong Emperors made it less necessary for them to give due consideration to the revived interest in devising a correct musical system since the Song dynasty. The introduction of a seven-degree mode based on the whole-tone scale suggested a totally different

aesthetic horizon, yet it was still firmly based on the traditional concept of twelve fundamental pitches generated by the Method of Triple Division.

Wang Xuan (1692-1759) and His Reliance on Song Dynasty Theories

It has been realized that the Qing official musical system did not inhibit theoretical speculations on the makings of the lost ancient tradition amongst scholars who were not directly involved with the writing of the Lulu zhengyi (Chen Wannai 1978:73). A typical example is Wang Xuan (1692-1759), who chose to follow the footsteps of the Song masters Zhu Xi and Cai Yuanding in the discussion of ceremonial music in his Yuejing lulu tongjie (Comprehensive Annotations on Classic of Music and the Pitch Pipes) published in 1728. Wang was so enthusiastic about Cai's musical theories that he devoted two of the five chapters of the book to the commentaries of the latter's treatise, in the manner of Han Bangqi and Li Wenchang in the Ming dynasty. In fact, Wang had unwittingly helped preserve Cai's treatise Lulu xinshu by quoting most of the text (Pian 1967:7). Two of the remaining chapters are entitled Xu lulu xinshu [Continuation of a New Treatise on the Pitch Pipes], further demonstrating Wang's desire to develop Cai's ideas of music.

Wang was quite explicit in treating the Yueji in the Liji as part of the notional Classic of Music. He followed the Tang dynasty scholar Kong Yingda in dividing the text of this section of ritual classic into twenty-one paragraphs in the first chapter of his Yuejing lulu tongjie, and gave a detailed commentary to each of them. He reiterated the educational value of music discussed in the classic, and yet saw the need to pay attention to how listeners responded to it, in a manner akin to the rationalist thinking of the Han scholar Wang Chong (27-c.100) (Yuejing lulu tongjie 1.3a-4b).

Wang Xuan followed Zhu Xi in arguing for the establishment of a music education system, and quoted in support the Zhouli's text concerning the teaching

duties of the Grand Director of Music (taishi) and the Music Master (yueshi) (Yuejing lulu tongjie 5.82a). He went on to apply the ancient idea of music education in the Zhouli to the identification of the shortcomings of Ming musical practices and suggested ways to make them acceptable to the Qing dynasty:

Since the Ming dynasty, musicians recruited to perform at Confucian temples had been lured to their profession by money; it did not matter whether they knew music or not. They were not taught theories of music, and were not assigned duties according to their ranks. As a result, there was hardly anyone who could compose music for various rituals. They could not sing nor dance, nor could they handle any paraphernalia and distinguish pitches. At best, they could be described as pedlars in the markets. No wonder that the educated class despised the whole set up. This is a real dilemma. The best solution is to revise the Dacheng music of the Ming carefully, and recruit singers and dancers from the educated class in the provinces. It is necessary to scrutinize the character of an individual, before subjecting him to a musical test. The chosen candidates will be taught music at the official school, and they should receive a high remuneration and be awarded a respectable status... In addition, there should be a general ban on opera performances, and scores and libretti of the art are to be burnt. Opera singers who know music theories are then given official positions, and those who have a virtuous character are entrusted with the task of composing ceremonial music. Opera singers will be taught these new pieces, which are performed at sacrifices, dining ceremonies and welcoming of guests. Licentious music will then disappear, while ceremonial music will flourish. In addition, there are many blind musicians who gather at towns in the provinces, performing music of the most licentious kind. They should also be recruited by the state, so that those who know music could be taught ceremonial music, and become respectable performers. The advantages are two-fold: first the handicapped will be looked after, and second the ancient system of using blind musicians is restored. Children from the educated class could then learn music through the proper channel, and help the court in promoting virtues.

(Yuejing lulu tongjie 5.83a-84a)

Wang Xuan began his criticism of the state of ceremonial music in the Qing dynasty tactfully by highlighting the mismanagement of music at Confucian temples in the Ming, and identified the main reason for the loss of a proper tradition as the failure to train the right kind of young people for the profession. The solution he proposed was derived from the Zhouli (23.3a-5b), emphasizing the importance of choosing young people of the right social class for music training. He also realized that music instruction was hardly feasible without the help of practising musicians. The closest he could get were operatic singers, who, though skilful, were not of the

right character, and they performed the wrong type of music. The suggestions to elevate their social status and improve the quality of their music are close to the thinking of Wang Yangming in the Ming dynasty, who believed ceremonial music could be restored by improving contemporary theatre music. Presumably, Wang Xuan shared the Ming scholar's view that the ancient tradition could be re-created by a virtuous person who understood the essence of good music, and not through the tedious method of scholastic research, as some early Song scholars had insisted. To give his proposal more credibility, Wang also called for blind street-musicians to be involved in the performance of ceremonial music, another idea derived from the Zhouli (23.22a-23a).

Wang was able to read between the lines of the Yueji (Liji 39.25a-26a) and concluded that ceremonial music was analogous to musical settings of poetry, and suggested a way to restore the ancient repertoire:

Although the Classic of Music is lost, ancient poems (Classic of Poetry) are still available. Anyone who is familiar with the ancient tradition and has the desire to promote virtues should try to achieve his goal by singing poems in the appropriate manner, so that virtues become an inherent human quality. This is close to what music can achieve.

(Yuejing lulu tongjie 1.41a)

Wang realized there was a limit to what he could extract from the ritual classic, and followed Zhu Xi in pointing out the drawback of the Yueji being its devotion to the discussion of the moral value of music, while ignoring its technical aspects (Yuejing lulu tongjie 1.41a-41b). He obviously thought these shortcomings could be rectified by the inclusion of Cai Yuanding's theory on pitches as discussed in Lulu xinshu in the second and third chapters, and Wang's own view on instruments and musical settings of poems in the last two chapters of his treatise.

Wang's ideal fundamental pitch huangzhong was based on a vague description of a nine-inch pitch-pipe with a volume of 1,200 millet grains, quantities accepted by Cai Yuanding, while the other eleven pitches were derived from it through the

Method of Triple Division. Like Cai, he advocated the use of six additional bian pitches by continuing this mathematical process to facilitate transpositions (Yuejing lulu tongjie 4.2b-5b). While he agreed with the need to verify the huangzhong pitch by the method of Watching for the Ethers suggested by Cai, he put more emphasis on the human factor to guarantee its accuracy:

The best way to determine the correct fundamental pitch is to cut a number of bamboo pipes and blow them, before putting them in an air-sealed room to wait for the arrival of ethers. However, the forces (qi) of heaven could be excessive, and the earth's ability to receive such forces could fluctuate. There is a further possibility that irregular changes of weather could lead to thunders in winter and frost in summer, which are inevitably followed by the arrival of ethers. How can pitches respond to these sudden changes? Therefore, supreme harmony is based on the virtuous character of the Emperor. He can use his personal qualities to bring harmony to the state, and eventually the same condition to heaven and earth. In this case, day and night will succeed one another, while the four seasons will not be out of order. There will be no excessive sunlight in winter, and no unnecessary coolness in summer. When these conditions are fulfilled, the pitch-pipes could then be planted in the soil in a room, so as to look for the one which responds to the forces of heaven. Even if the correct pitches are determined, they will still emit the wrong sound if there is no harmony in the person blowing them. Therefore, the essence of pitches is related to the administration of a state.

(Yuejing lulu tongjie 5.79b-80a)

Wang believed that the physical conditions for the experiment of pitches cannot be met in the absence of an Emperor with a virtuous character, owing to the likely instability of the heavenly and earthly forces. The idea of searching for harmony amongst human beings, heaven and earth is a direct application of Wang Yangming's subjective idea for this scientific process. Wang Xuan presumably did not rule out the possibility that the eventual huangzhong could be the same pitch as the one in Cai Yuanding's mind. Such a reverting to Song thought is an indication of a subconscious acceptance of the official hostility to theories of the preceding Ming, and an ignorance of the latest musical trends developed at the Qing court.

Wang was more meticulous than most of his contemporaries in the discussion of the meaning of the five degrees. He developed Zhu Xi's idea of associating gong, shang, jue, zhi and yu with throat, teeth, tongue, molars and lips, and suggested these

could represent tone colour (Yuejing lulu tongjie 4.8a). He went on to explain the origin of degree-names, and how different tone colour could be produced by changing the shape of the mouth:

According to books on pronunciation, gong sounds when the tongue lies in the middle; shang sounds when the mouth opens; jue sounds when the tongue contracts; zhi sounds when the tongue is not touching the molars; yu sounds when the lips contract. This is the original definition of the five degrees. In general, gong sounds when the mouth is closed; shang sounds when the mouth is open; jue sounds when the tongue rolls; zhi sounds when the upper and lower teeth touch; yu sounds when the lips are pressed together tightly. In addition, gong is the sound of the throat, shang the molars, jue the teeth, zhi the tongue, and yu the lips.

(Yuejing lulu tongjie 4.8b)

This was further developed to accommodate different instrumental timbres, relating the gong degree to drums, shang degree to mouth organs and bamboo flutes, jue degree to zhu, yu and qing, zhi degree to qin and se, and yu degree to bells. (Yuejing lulu tongjie 5.49b) Wang went on to discuss the pitch differences between the five degrees in the same passage, using the Method of Triple Division to arrive at zhi, shang, yu and jue from gong. He pointed out that it was difficult to determine the correct jue degree, because morally it represented the people, and was dependent on the presence of a good Emperor (gong), and that of affairs and matter (zhi and yu). He thought it did not matter when gong, shang, zhi and yu degrees were slightly out of tune, but jue had to be exactly right (Yuejing lulu tongjie 5.49b-50a). In spite of the deviation from the official music system, this thoroughly Confucian attitude suggesting a tight control on the people should make his theory more palatable to the ruling Manchurians.

Wang Xuan's ideal design for the bianzhong and bianqing varied from sixteen to twenty-eight or thirty-two bells or sonorous stones to a frame, and he quoted the Zhouli and Liji in his support (Yuejing lulu tongjie 4.55b-58a). Yet he failed to prove these numbers came from the ritual texts directly. His main concern was to allow all possible transpositions without disturbing the hierarchy of the state implied

in the five degrees. The sixteen-piece bianzhong or bianqing, with four higher octave pitches added to the basic octave, enables the gong (Emperor), shang (ministers) and jue (people) degrees to maintain a strict order under all circumstances, yet has to let the zhi (affairs) and yu (matter) fall below the other degrees. The design of twenty-eight pitched percussion instruments a set covers the range of four octaves for the seven-degree mode, and allows all five degrees to adhere to the strict order of pitches in Wang's mind. The same applies to the thirty-two piece arrangement.

In spite of the availability of pitches in addition to the twelve in the basic octave, Wang warned against any attempt to use them, and quoted Zhu Xi in his support. Wang believed the involvement of higher pitches could jeopardize the chance to revive ancient practice (Yuejing lulu tongjie 5.3a). This is, of course, contrary to his own orthodox view of maintaining the moral order of the five degrees, which inevitably involved four higher octave pitches for music in gong modes higher than yize.

Wang went on to comment on the twelve ritual songs in Zhu Xi's Yili jingzhuan tongjie. He was very concerned with the choice of modes in these pieces, and criticized the use of the gong mode of higher octave huangzhong in the first six pieces:

When higher octave huangzhong and taicou are taken as gong and shang degrees respectively, jue, zhi and yu degrees are inevitably the pitches guxian, linzhong and nanlu from the optimum range (zhongsheng). In this case, the jue, zhi and yu degrees occupy more important positions than gong and shang. This is an intrusion on the Emperor and ministers by the people, affairs and matter. Can such a vicious act be condoned?

(Yuejing lulu tongjie 5.4a)

Zhu Xi was also sceptical about the choice of higher octave huangzhong as gong, yet he was only worried about the first three degrees - gong, shang and jue - in the right moral and musical order, and agreed with early Song theorists that zhi and yu, the fourth and fifth degrees, did not have any hierarchical connotations. Wang Xuan, on the other hand, implied that all five degrees must be in the correct order.

The same criticism would have applied to the other six melodies written in shang mode, with wuyi as gong, in Zhu Xi's treatise. Wang went on to point out that even the zhi and yu degrees could bring chaos to the state if they were not kept at the right pitch level relative to the other degrees (Yuejing lulu tongjie 5.4b).

One would have assumed that Wang must have been familiar with Zhu Xi's musical settings before he made these remarks. Yet he showed his ignorance of the Song master's ritual treatise when he endeavoured to provide his own improved versions of the songs:

Zhao Zijing (Yansu) of the Song dynasty had provided musical settings for the Xiaoya poems in the Shijing (Book of Poetry), yet Zhu Xi thought they were written in the style of entertainment music. I have, however, no opportunity to see Zhu Xi's music, and I therefore include the musical settings of Nie Shuangjiang in order to illustrate what should be done to these existing songs. It is vital to correct their errors. I have applied the theories of Zhu Xi and Cai Yuanding and composed six pieces categorized as Zhounan and Zhaonan.

(Yuejing lulu tongjie 5.15a)

Of course, Zhu Xi's remarks on these musical settings were also provided in sources other than the Yili jingzhuan tongjie, amongst these in the musical section of Li Guangdi's edition of Yucuan Zhuzi quanshu (The Imperial Complete Collection of the Works of Master Zhu) of 1714. Somehow, Li chose not to include Zhu Xi's treatise on the Yili in his compendium, a step not followed by editors of the Siku quanshu (Complete Collection of the Four Treasuries of Literature). The choice of Nie Shuangjiang's (1487-1563) music could be a matter of pure convenience, yet it also served the purpose of highlighting the need to introduce drastic changes to the Ming musical system, owing to the association of Nie with official Dacheng music. Nie was an admirer of the practical teaching of Wang Yangming, and had held the position of the councilor to the prince at the Ming court.

Nie's musical settings of six poems in the manner of Zhu Xi's Yili jingzhuan tongjie include Guanju, Getan, Juan'er, Quechao, Caifan and Caipin (Yuejing lulu tongjie 5.10b-13a) (Appendix 9). Since huangzhong is the lowest pitch in all pieces

except Quechao, Wang Xuan interpreted it as the gong degree, presumably applying the theory that it should occupy the supreme pitch position, a Song dynasty view based on the moral relationships of the five degrees in the Yueji. Wang Xuan went on to point out that there were important drawbacks of Dacheng music, owing to the way the five-degree mode was formed:

Here the five degrees are huangzhong, taicou, zhonglu, linzhong and nanlu. If huangzhong is taken as gong, there should not be a place for zhonglu. If, on the other hand, zhonglu is taken as gong, the zhi and yu degrees are more significant than gong and shang. There are flaws in both cases. This is because Dacheng music of the Ming dynasty is derived from folk music, which uses zhonglu instead of ruibin as the bianzhi degree in the seven-degree mode. In addition, the jue degree guxian is omitted altogether. The closest is the new bianzhi degree, which is used to start a piece of music. This will lead to a disorder of the jue and zhi degrees, causing difficulties amongst the people and chaos in affairs.

(Yuejing lulu tongjie 5.14a)

Wang Xuan's objections were based on the assumption that he could work out the mode correctly from Nie's music. If the five degrees were represented by huangzhong (C), taicou (D), zhonglu (F), linzhong (G) and nanlu (A), the third degree jue (zhonglu) would be a semi-tone higher than guxian (E), the widely accepted pitch for jue degree of the gong mode of huangzhong. Wang considered such an alteration to the jue degree disturbed the moral order of the state, owing to the connotation of the degree with people.

Wang also realized that in Nie's musical settings, zhonglu (F) instead of huangzhong (C) could be interpreted as gong. In this case, the pitches for the other four degrees shang, jue, zhi and yu would be linzhong (G), nanlu (A), huangzhong (C) and taicou (D), matching the traditional concept of pitch relationships of the five degrees. Yet he saw it as an unacceptable arrangement, because the zhi and yu degrees, which represented affairs and matter, often fell below the other three degrees, which represented the Emperor, ministers and people. His interpretation of the hierarchies of the state was stricter than that in the Song dynasty, when the fourth

and fifth degrees were allowed to fall below the first three, owing to the prevailing idea that only the order of the first three degrees had to be maintained.

In order to put things right, Wang Xuan provided his own version of the six poems, claiming that he had observed the music theories of Zhu Xi and Cai Yuanding while composing (Yuejing lulu tongjie 5.15a-18a) (Appendix 10). While Zhu Xi's settings of the six poems are in the higher shang mode of wuyi, Wang's choice of modes is more varied, with only Juan'er written in the same mode. Wang's other modes include zhi of jiazhong, gong of huangzhong, zhi of wuyi, gong of dalü, and shang of jiazhong. Wang ignored the heptatonic structure of Zhu Xi's pieces, and retained the pentatonic characteristic of Nie Shuangjiang's settings, except in Getan and Juan'er, where he introduced the bianzhi and biangong degrees separately in a hexatonic structure. Cai Yuanding's theory of six additional bian pitches are used, when necessary, with the twelve in the basic octave, providing a practical solution to the tuning problems arising from pitches worked out from the mathematical process of Triple Division. There is a high degree of consistency concerning the application of the meaning of a mode: Zhu Xi's definition of beginning and ending a piece with the same pitch was observed. In fact, this rule was also applied to each stanza within a piece.

Wang obviously had a different interpretation to what an optimum range was for ceremonial music. While Zhu Xi agreed with early Song theorists such as Hu Yuan and Ruan Yi for the use of four higher octave pitches of huangzhong, dalü, taicou and jiazhong, Wang allowed higher octave nanlü (A) to be used in Juan'er and higher octave linzhong (G) in Quechao, which were four and six pitches above jiazhong (Eb), the highest pitch acceptable to most Song scholars. Yet there is no conflict with Wang's concept of an ideal range, judging from his suggestion for bells and sonorous stones covering these pitches.

Wang was on the whole consistent with his self-imposed adherence to the maintenance of the musical hierarchy of the five degrees, extending this original Song idea to zhi (affairs) and yu (matter), degrees representing the non-human elements of the state. The music is within the range of an octave, with the lowest pitch assigned to the gong degree, and with no possibility for the other four degrees to fall below it. This is observed even in music not written in gong mode: a piece in shang or zhi mode, for example, could in Wang's own understanding, create a moral problem if the opening and ending pitches were not kept above the gong degree. Wang, however, broke his rule in the third stanza of Getan, written in gong mode of huangzhong, where he introduced higher octave huangzhong and taicou for higher gong and shang degrees. This would have, in his own thinking, created some difficulties in upholding the moral meaning of the five degrees.

Wang Xuan's idea of syllabic setting for the poems could have been taken from Nie Shuangjiang, yet it was against Zhu Xi's notion of ancient musical settings of poetry, which was supposed to have a main melody, a refrain, and the chanting of repeated words for each stanza. In Wang's mind, the choice of modes and the juxtaposition of pitches could have been the most important issues.

Wang's discussion on music for District Drinking Ceremony in the Yili is not complete without the first six poems. Somehow, he managed to find a piece of qin music for the first poem Luming, and decided that it was not the same song Zhu Xi had seen (Yuejing lulu tongjie 5.18b-19b) (Appendix 11):

No one knows who has written this piece of music for the qin. It has been said that the piece is in the gong mode, yet only the last stanza begins and ends with the gong degree. The fact that the third degree guxian is replaced by zhonglu proves this is not an old piece. The first two stanzas do not begin and end with the gong degree makes it impossible to suggest that the piece is in the gong mode. One could perhaps say this is a piece of music for the District Drinking Ceremony in the Kaiyuan period of the Tang dynasty transcribed by Zhao Zijing of the Song dynasty. Yet Zhu Xi had already criticized it for being wrongly written in the gong mode of higher huangzhong. This means it cannot be the piece transcribed by Zhao Zijing.

There is a possibility that the first two stanzas have been altered by later musicians.

(*Yuejing lulu tongjie* 5.19b)

Apart from confirming the fact that Wang Xuan had not seen the music in Zhu Xi's *Yili jingzhuan tongjie*, the passage demonstrates Wang's eclectic attitude in choosing music for analysis. In this case, it was an anonymous piece for the *qin*. Again, he held the view that the pitch in the supreme position, which meant the lowest - *huangzhong* - should be the *gong* degree. It would have made more sense if he were to have treated the piece as written in the *zhi* mode of *zhonglu*, making it unnecessary for him to criticize the modal structure of the piece. This *qin* piece allows two pitches set to a word in many places, and is different from the strictly syllabic style provided in Zhu Xi's ritual treatise.

Apart from the structure of the five-degree mode, this anonymous piece would not have met Wang's moral and musical standards, owing to the cadencing degree *gong* being the pitch higher octave *huangzhong*, with *linzhong* and *nanlu*, the *zhi* and *yu* degrees, falling below it. He provided a musical setting of the same poem so as to demonstrate its respectful quality (*Yuejing lulu tongjie* 5.20a-21a) (Appendix 12). Zhu Xi's ideas on ancient music were observed, with the use of the heptatonic mode with *huangzhong* as *gong*, and each of the three stanzas of the poem beginning and ending with the *gong* degree. Like Wang's most other settings, the range is kept within an octave, so that no disturbance of the moral order of the state in relation to the five degrees is possible.

Jiang Yong (1681-1762) and His Admiration for the Distant Past

Wang Xuan's reliance on Cai Yuanding's *Lulu xinshu* was not shared by his contemporary Jiang Yong (1681-1762), who was obsessed by the *qin* and published his two-chapter *Lulu xinlun* (New Discourse of Acoustics and Music) in c. 1740, proposing, amongst other less controversial ideas, a mathematical way to compensate

for the theoretical deficiencies of the Method of Triple Division in the generation of eleven pitches from the fundamental pitch huangzhong. In fact, it has been pointed out, almost sarcastically by Wu Chongyao in 1862, that Wang Xuan and Jiang Yong had such a marked difference in the understanding of pitch theories that it was the reason why they never met, although they lived in the same street (Yuejing lulu tongjie Afterword).

While Wang Xuan had taken great trouble in formulating his ideas on how ceremonial music should be written, Jiang Yong saw it as something that would change in relation to time, and suggested restoring the ancient tradition through contemporary music:

The basic element of sound is force (qi), which is found in human beings. Such a kind of force is subject to change, which is unavoidable. The fact that ancient music has changed to contemporary music is similar to the replacement of ancient rituals by contemporary customs. These changes are inevitable. Since it is quite uncomfortable for people of this generation to practise ancient rituals, it is not surprising that ancient music is rejected by contemporary ears. If there is disharmony in the ears, there is no harmony to gods. In this case, force (qi) will not be harmonious. Are these negative factors good for music? One could, of course, argue that music is to please gods, and not to satisfy human beings. Yet the perception of gods is similar to human beings; if the music is not liked by human ears, it will also be rejected by gods. Therefore, it is unnecessary to revive the lost musical tradition. Instead, one should eliminate elements which are too emphatic, too high, too complicated and too exaggerated in contemporary music, and retain those passages which are slow and harmonious. The music will then be close to peacefulness, the ideal character of ceremonial music advocated by Zhou Dunyi.

(Lulu xinlun 2.88)

Jiang's idea that the ancient tradition could be restored by improving contemporary music is similar to what Wang Yangming had proposed in the Ming dynasty. Another of Jiang's important points is the association of human beings with gods through the common quality force (qi), the essential element, he believed, in making music. This closely resembles Wang Yangming's idea of the perfect individual as a symbolic union with heaven, earth and myriad things. Yet Jiang was careful not to draw any connection with the Ming philosopher, but named a politically

less sensitive Song scholar Zhou Dunyi as a model. He went on to discuss the merit of re-creating the lost tradition of ceremonial music from the living tradition, owing to the availability of folk music in simplified notation, and the expertise in its performance (Lulu xinlun 2.89).

While Wang Yangming believed it was futile to work out a correct system of pitches before the establishment of ceremonial music, Jiang Yong's view towards pitches was more conservative, and was akin to Cai Yuanding's theory that it was essential to determine the fundamental pitches first. Yet his idea about the ideal huangzhong and the method to determine the other eleven pitches of the basic octave bear no relation to existing theories. He thought the nine-inch fundamental huangzhong should come from doubling the length of a pitch-pipe an octave higher, measuring 4.5 inches in length and $\frac{1}{3}$ inch in diameter, because it was the shortest length that would emit a pitch (Lulu xinlun 1.9). He was, of course, aware of the length of this fundamental pitch described in the treatise Lushi chunqiu (Master Lu's Spring and Autumn Annals), dated the third century B.C., being 3.9 inches, and was able to make use of these discrepancies to his advantage:

The pitch-pipe (that Ling Lun made) was 3.9 inches long. When it was blown, it emitted the gong degree of huangzhong. The pitch was also called sheshao, another name for higher octave huangzhong. The reason for the length of the pitch-pipe given in the treatise being 3.9 inches and not 4.5 inches is, in ancient times, it was easy to mix up the characters four and three, because they were made up of four and three strokes respectively. The same confusion could arise between the characters nine and five, owing to the similarity in shape. The pitch Ling Lun began with was the higher octave huangzhong, because the Lushi chunqiu goes on to describe that twelve pitch-pipes were made in relation to the pitches sung by the phoenix. These pitch-pipes did not include the one for higher octave huangzhong.

(Lulu xinlun 1.10)

Indeed, the 3.9-inch huangzhong pitch-pipe in the Lushi chunqiu had puzzled many theorists of later generations. The most common approach had been to follow the Han dynasty historian Ban Gu, who, in his Hanshu (History of the Han Dynasty), ignored this awkward measurement and proposed a huangzhong pitch-pipe measuring

nine inches. Li Wenli's idiosyncratic system of pitches built up from the 3.9 inch huangzhong pitch-pipe in the early Ming dynasty led to a complete re-evaluation of traditional pitch theories, and was rejected by his fellow theorists in the Ming dynasty, amongst them Zhu Zaiyu. Jiang Yong had, however, not replaced the commonly accepted nine-inch huangzhong pipe, but merely argued, in the context of the Lushi chunqiu, that this pitch was arrived at from a fundamental pitch-pipe half its length. He further illustrated this point by referring to the section Monthly Commandments in the Lushi chunqiu and to the relative positions of harmonics in the qin (Lulu xinlun 1.10-11).

Jiang Yong's most important contribution to the discussion of pitches is the way the other eleven pitches of the basic octave are generated from the nine-inch huangzhong pitch-pipe. He had obviously studied the development of the Method of Triple Division carefully before rejecting it, and he blamed historical writings such as the Guanzi (The Book of Master Guan), Shiji (Historical Records) and Hanshu (History of the Han Dynasty) for not recognizing its failure in regenerating the original huangzhong from zhonglu, the last in the series of pitches (Lulu xinlun 1.2b). He also blamed theorists such as Jing Fang, He Chengtian and Cai Yuanding for devising different pitch theories based on the same method to overcome the inherent deficiency, while pointing out the artificiality of Zhu Zaiyu's theory of equal temperament (Lulu xinlun 1.33-36).

Jiang's criticism of virtually all complicated theories since the Han dynasty served to introduce a relatively simple method, which involved the most elementary mathematical skills: the length between the nine-inch huangzhong and the 4.5 inch higher huangzhong pitch-pipe, that is 4.5 inches, was to be shared evenly amongst the twelve pitches within the basic octave (Lulu xinlun 1.21). This means, for example, 0.375 inch is to be subtracted from the nine-inch huangzhong pitch-pipe to generate that of the dalü which measures 8.625 inches, and the same length taken away from

the dalü pitch-pipe to generate that of the taicou which measures 8.25 inches. He went on to provide the lengths of all pitch-pipes between huangzhong and its higher octave, which is illustrated in the following table:

Pitch	Length of Pitch-pipes in Inches
Huangzhong	9
Dalu	8.625
Taicou	8.25
Jiazhong	7.875
Guxian	7.5
Zhonglu	7.125
Ruibin	6.75
Linzhong	6.375
Yize	6
Nanlu	5.625
Wuyi	5.25
Yingzhong	4.875
Higher Octave Huangzhong	4.5

(Lulu xinlun 1.22)

The fact that Jiang Yong had to discredit so many existing theories in order to introduce a new concept of pitch relationship made it more necessary for him to look for support in authoritative sources. The Zhouli is the most obvious classical canon for ideas relating to pitch theories, particularly the passage concerning the modal designations of the Six Ancient Pieces, where a yang pitch is paired with a yin pitch for instrumental and vocal ensembles for each piece (Zhouli 22.8a-11a). He then

combined the lengths of each pair of pitch-pipes to arrive at the same measurement of 13.125 inches to prove that such a combination, and above all, his understanding of the measurements of the pitch-pipes, were correct:

Name and Length of Yang Pitch-pipes in Inches	Name and Length of Yin Pitch-pipes in Inches	Combined Length in Inches
Higher Octave Huangzhong 4.5	Dalu 8.625	13.125
Taizou 8.25	Yingzhong 4.875	13.125
Guxian 7.5	Nanlu 5.625	13.125
Ruibin 6.75	Linzong 6.375	13.125
Yize 6	Zhonglu 7.125	13.125
Wuyi 5.25	Jiazhong 7.875	13.125

(Lulu xinlun 1.25)

In order to accommodate his theory, Jiang had to introduce minor changes to the ritual text, replacing the pitch huangzhong by its higher octave. The original Zhouli passage lists the six masculine pitches in ascending order, from huangzhong to wuyi, while naming five of the six feminine pitches, from yingzhong to jiazhong, in descending order. Yet there is no implication that the corresponding pitch-pipes of each pair should have such a mathematical relationship in the manner proposed by Jiang.

In spite of the neatness of Jiang Yong's calculations, his idea of distributing the length of a higher octave huangzhong pitch-pipe evenly amongst twelve pitches would have led to serious problems in intonation, if they were to be made according to his specifications. Zhu Zaiyu's more scientific theory of equal temperament, put forward some 150 years before, was based on the correct mathematical and acoustic judgement that pitches progressed according to a constant proportion of the twelfth root of two, which would mean a different decrease in length for each of the subsequent pitch-pipes generated from huangzhong. Acoustically, Jiang Yong's method of calculation compares poorly even with the traditional Method of Triple Division, which at least generates correct perfect fifths according to the mathematical proportion of $2/3$. Jiang's sole concern was to find a simple way to prove the cyclic nature of the twelve pitches; it did not matter to him whether his theory could be put into practice. He was therefore very different from the practical orientation of contemporary scholars such as Dai Zhen (1723-77), who managed to formulate the measurements of bells close to archaeological findings by conducting an in-depth study into complicated mathematical theories (Elman 1984:182).

Jiang Yong believed there should only be five degrees - gong, shang, jue, zhi and yu - in a mode, owing to the presence of these degrees for the five lower strings of the qin, and the tuning of the sixth and seventh strings to higher octave gong and shang (Lulu xinlun 1.36). There could be a linguistic rather than musical reason for the exclusion, from the heptatonic mode, of the two bian degrees, biangong and bianzhi, owing to his distaste for Cai Yuanding's six additional bian pitches, which were derived from the Method of Triple Division. Jiang's theory was akin to Chen Yang's definition of an ideal mode in the Song dynasty, which was challenged and rejected by most of his contemporaries. Jiang would also have discredited the twelve settings of Yili poems for their heptatonic characteristics. He was, of course, at odds with Wang Xuan in this respect.

Jiang's ideal bianzhong and bianqing had sixteen bells and sonorous stones to a frame, and was based on the ideas of Song dynasty theorists such as Feng Yuan and Song Qi, emphasizing the importance of maintaining the moral order of the first three degrees, gong, shang and jue in all transpositions, an application of the idea in the Yueji (Lulu xinlun 1.71). In the same passage, he once again demonstrated his inclination towards the ancient string instruments qin and se by proving they encompassed the range covered by the sixteen-piece pitched percussion instruments. Jiang had shed little new light on the range for these instruments, except reinforcing the idea of a minimum range in the performance of ceremonial music.

The Song neo-Confucian master Zhu Xi's influence on Jiang Yong is more obvious in the discussion of modes. Jiang followed Zhu's definition of a mode by stating a piece of music should begin and end on the same pitch, which must not be too low or too high, so that instrumentalists and singers could introduce a variety of high and low pitches (Lulu xinlun 1.76-77). He suggested gong mode in ceremonial music should be synonymous with gong mode in the optimum range (zhenggong) in entertainment music, because the most common form of these modes began and ended on higher octave huangzhong (Lulu xinlun 1.78). It is not surprising that he endorsed the choice of the two modes, higher gong and higher shang, for twelve ritual songs in Zhu Xi's Yili jingzhuan tongjie, owing to higher huangzhong being used as the beginning or ending pitch (Lulu xinlun 1.79). This is contradictory to the Song master's apprehensive view about the two modes chosen for Zhao Yansu's melodies, which were considered too high for music of solemn nature. Jiang Yong's willingness to propose something totally different from what had been firmly established since the Han dynasty was appreciated only after the fall of the Qing Empire by Xu Ke, who thought Jiang had, amongst other things, worked out the essence of pitches in ancient music by emphasizing the importance of the pitch higher octave huangzhong (Qingbai leichao 4921-22).

The Later Qianlong Period (1746-95)

The Influence of Poetry Songs from the Shijing yuepu quanshu

Apart from the effort in the official music treatise Lulu zhengyi (Collected Basic Principles of Music), the Qianlong Emperor (r.1736-95) was also involved in the preparation of Shijing yuepu quanshu [Complete Collection of Music for the Book of Poetry]. Although the last was completed in 1788, it merely consolidated the official pitch theories put forward by music scholars during the reign of the Kangxi Emperor (r.1662-1722). The work demonstrates the desire of the Qianlong Emperor to provide a standard of performance for songs based on the texts recorded in the classic Shijing (Book of Poetry), allegedly edited by Confucius and containing 305 ancient poems and the titles of six more. It is essentially the ideal yayue (ceremonial music) in the mind of the Emperor.

Like the Lulu zhengyi houbian (Continuation of Collected Basic Principles of Music), the Shijing yuepu quanshu contains musical settings of the eighteen poems from the District Drinking Ceremony recorded in the Yili (Appendix 13). The texts for the six invented sheng poems, so called because the sheng (mouth organ) is believed to be involved in the performance, are identical in these musical treatises, indicating a close connection between them. The Shijing yuepu quanshu adopts the syllabic style and modal system of the Lulu zhengyi houbian, with a whole-tone relationship between consecutive degrees in a seven-degree mode, making it possible to maintain a uniform gender of pitches throughout a song. Each piece begins with the yu degree and leads to the gong, and concludes with the yu degree leading from the gong, as in the Lulu zhengyi houbian. This gives a central position to the gong degree, which represents the Emperor. The idea of centrality is further enhanced in six of the settings, including Luming, Simu, Huanghuang zhe hua, Yuli, Nanyou jiayu and Nanshan youtai, where the lower zhi degree is included, enabling the gong to be

positioned above the lower zhi and yu, and below the shang and jue degrees. The restriction of the range from yu degree in the lower octave to yu in the basic octave, covering fourteen semi-tones, avoids any intrusion of the gong degree by shang (ministers) and jue (people), and is a simple way of interpreting the Song dynasty idea of the moral relationship of the five degrees in the Yueji of the Liji.

While the Lulu zhengyi houbian uses the same pitch for the gong degree for all eighteen songs in the District Drinking Ceremony, the Shijing yuepu quanshu takes a more flexible approach. The gong degree of the six sheng poems, including Nangai, Baihua, Huashu, Chongqiu, Yougeng and Youyi, is fixed to huangzhong, the most important pitch, owing to their ceremonial nature (Shijing yuepu quanshu Introduction.2b). Yet for five of the six poems collectively known as Xiaoya (minor ceremonial), including Luming, Simu, Yuli, Nanyou jiayu and Nanshan youtai, the gong degree is pitched to guxian. The remaining Xiaoya poem Huanghuang zhe hua fixes the gong to zhonglu. Three of the folk poems known as Zhounan (Guanju, Getan, Juan'er) fix the gong degree to taicou, while the other three folk poems called Zhaonan (Quechao, Caifan, Caipin) fix the gong degree to jiazhong. It is apparent that performers would have to standardize the gong degree for all the songs according to the pitch associated with the month of the ceremony, if they were to be used according to the musical tradition recorded in the Lulu zhengyi houbian.

The Shijing yuepu could be a valuable source for Qing court musicians, owing to the inclusion of music for 145 poems concerned with rituals and the glorification of ancestors. Yet it also contains musical settings for 160 folk poems believed to be collected from fifteen Zhou dynasty states. The diversity of the origins and content of the poems has long been valued by rulers in China; one of the main reasons for the setting up of the Yuefu (Office of Music) in 112 B.C. during the reign of Emperor Wudi (140-87 B.C.) in the Former Han dynasty had been to collect folk poems, and the tunes set to them, from different areas, so as to provide a vehicle for the Emperor

to monitor the general feeling of the people (Loewe 1974:193). The preparation of a complete collection of musical settings of the Shijing in the authoritative manner initiated by the Qianlong Emperor can be considered as an intrusion on the creativity of the people. It has also effectively changed the direction of communication; folk poems were used as a means to create musical uniformity dogmatically amongst the people.

Hu Yansheng (1730-1817) and His Preference for Song Dynasty Theories

The active participation of the Qianlong Emperor in the establishment of a musical system has the advantage of bypassing any discussions to justify its merit. It also has the disadvantage of limiting the opportunities for further discussions on the topic. Music scholars of the period had effectively two choices; they could either find ways to endorse the official system, or look for inspiration from less sensitive periods before the Ming dynasty. Some, of course, remained eclectic but were careful not to boast the achievement of the Ming, or to criticize the Qing official system. Hu Yansheng (1730-1817), who became a junior official during the reign of the Yongzheng Emperor (r. 1723-35), was a typical example who chose the latter path. He was the grandson of Hu Wei (1633-1714), a classical scholar of the early Qing dynasty who had contributed much to the development of the science of geography in China. Hu Yansheng's eight-chapter Yuelu biaowei [A Fine Investigation of Music and Pitches] was completed in 1755 and presented to the Qianlong Emperor during an imperial visit to the South in 1762 (Hummel 1943:336).

Hu's approach in the discussion of the characteristics of the perfect tradition of ancient music was more akin to the Song neo-Confucians than the Qing fashion of Han scholarship, owing to the attention he gave to Song theorists, particularly Zhu Xi and Cai Yuanding. He held the traditional view that ancient music gradually gave way to the folk tradition when Li Yannian (d. 90 B.C.) was employed at the Yuefu

(Office of Music) during the reign of Emperor Wudi (140-87 B.C.) in the Han dynasty, and that it virtually vanished after the death of the Du Kui (fl. 220), when the four ancient songs disappeared (Yuelu biaowei 4.6b). He thought any attempt to compensate for the loss of the authentic tradition was futile, because this would only lead to the promotion of a wrong kind of music (Yuelu biaowei 4.6b-7a). This cynical attitude is in contrast to the open-mindedness of Wang Yangming and his followers in the sixteenth century, or Qing theorists such as Mao Qiling and Wang Xuan, who thought the ancient tradition could be restored by improving existing practices.

Yet this did not stop Hu from formulating musical ideas relating to the ideal past. He was obsessed with the Song dynasty idea of determining the optimum range (zhongsheng). The first step was to establish the fundamental pitch huangzhong by the then much criticized quasi-scientific method of Watching for the Ethers developed from the chapter Monthly Commandments in the Liji (Yuelu biaowei 2.43b). In the same passage, he outlined Cai Yuanding's way of subjecting a number of pitch-pipes with a difference of a fen ($1/10$ inch) for the experiment. However, he disagreed with the Song theorist that the accuracy of huangzhong should have any relation with the moral standard of human beings, such as the poor discipline of the ministers or the harshness of the Emperor, so long as the calculations for the pitch-pipes and calendar were accurate (Yuelu biaowei 2.42b-43a). This is a typical Song dynasty view that a correct system of pitches should be in place, before music can have any positive influence on the people.

Hu made hardly any contribution to existing pitch theories. Having determined the right huangzhong, the other eleven pitches of the basic octave were worked out according to the Method of Triple Division (Yuelu biaowei 3.8b). His idea of pitches was more conservative than Cai Yuanding's theory of adding six bian pitches to the twelve pitches in the basic octave, owing to the suggestion that

calculations of pitches should terminate at the eleventh pitch zhonglu (Yuelu biaowei 3.9a-9b). Such a limited view on pitches is similar to the idea of the Song conservative theorist Chen Yang, who believed ancient music was restricted to the range of twelve pitches in the basic octave, and music outside the range had the qualities to ruin a state.

Chen Yang's influence on Hu Yansheng extends to the concept of a mode. The latter applied the Method of Triple Division to the generation of the five degrees, and reiterated that they were formed in the order of gong, zhi, shang, yu and jue, in the relationship of a fifth, as described in early sources such as the Shiji (Historical Records) and Hanshu (History of the Han Dynasty) (Yuelu biaowei 3.5a-5b). He classified the five degrees as proper degrees (zhengsheng) and did not approve of the use of the seven-degree mode, owing to the presence of two bian degrees, biangong and bianzhi, degrees generated by extending the process beyond the proper range (Yuelu biaowei 3.11a-11b). This is in total agreement with Chen Yang's view of the proper ancient tradition of music. Hu only distinguished high and low degrees within the five degrees in the basic octave: gong, shang and jue were low, while zhi and yu were high (Yuelu biaowei 3.20). In his mind, the mixture of high and low degrees had the potential to generate music in the ancient tradition.

If Hu had a chance to propose a design for the bianzhong or bianqing, he would have advocated twelve bells or sonorous stones in each frame, owing to the belief that the twelve pitches in the basic octave could produce music close to the ancient tradition, a deliberate misinterpretation of Zhu Xi's original view of adding four higher octave pitches to the basic twelve (Yuelu biaowei 3.21a). Hu did not think it was necessary to introduce higher octave pitches huangzhong, dalü, taicou and jiazhong in order to maintain an hierarchical order of the five degrees in modes with the gong degree fixed to pitches higher than yize.

Hu Yansheng provided the first of the three stanzas of Zhao Yansu's musical setting of Luming from Zhu Xi's Yili jingzhuan tongjie to illustrate it was not written according to his own criteria of ancient music (Yuelu biaowei 4.4a-4b). He reaffirmed the Song master's criticism of the syllabic setting of the piece, and suggested it should have more fluctuations in pitch for each character (Yuelu biaowei 4.3a-3b). He accused composers in the Yuan and Ming dynasties for following the composition style in Zhu Xi's ritual treatise, and, as a result, developed music in the wrong direction (Yuelu biaowei 4.7a-7b). He therefore would have dismissed the settings in the Lulu zhengyi houbian and Shijing yuepu as written in the correct style, if he were ever aware of their existence, on the ground of their syllabic style.

Hu had, however, one point to add to the debates on the authenticity of the ritual songs since their appearance in the late Song dynasty. He discovered the Luming stanza quoted was against the ancient tradition because it included pitches which should not be used. He counted three appearances of the pitch ruibin and two of yingzhong, equivalent to the degrees of bianzhi and biangong in the gong mode of higher huangzhong, the mode of the piece (Yuelu biaowei 3.13b-14a). The foundation of his argument was the belief that ancient music was pentatonic.

Fang Chengpei (fl.1777) and His Reliance on Song Dynasty Ci-poetry

Fang Chengpei (fl.1777) was a typical theorist who drew inspirations from the Song dynasty to formulate ideas about ancient music. He focused on the tradition of singing ci poetry, the popular literary form with irregular lines reaching its height in the Song dynasty, in his five-chapter treatise Xiangyan ju cichen (Chats on Poetry at the Xiangyan Retreat) completed in 1777. He was optimistic that ancient music could never vanish completely, and used his own musical experience to substantiate his argument:

One should approach a good musician, and ask him to use contemporary instruments to perform ancient music. This is possible because one can

eliminate the decadent components to restore the solemn and graceful qualities of music, which will then have positive influence on human character, and bring peace. Is it not called the music of a prosperous period? The so-called "ceremonial music" (yayue) may not be totally authentic, but why should music performed at the Secular Music Training Quarters (jiaofang) be totally decadent?...Music performed at the Dining Ceremonies in the Song dynasty was not too different from that of the ancient tradition, a theory also applicable to operatic music of the present. When I was young, operas with stories related to loyalty and piety were performed during rituals for New Year, and the customs and moral standards were excellent. In these recent two decades, Luantan (Xiqin) operas were very popular. Their texts are deliberately arranged so that they contain the most licentious and misleading elements. Most people enjoy their performances, but the moral standard has declined considerably. Is contemporary music really different from ancient music?

(Xiangyan ju cichen 2.28)

Fang's idea that the essence of ancient music could be found in music of his time is similar to the theory of Wang Yangming in the Ming dynasty, although he stopped short of explicitly pointing out such a relationship. The basic argument is that the quality of music depends on the process of choosing what is desirable for the cultivation of a virtuous character, an essential Confucian quality for the maintenance of the order and prosperity of a society. Fang believed that music developed with time, and, as a result, the perfect tradition of the past might have lost some of its good qualities, while previous entertainment music might have changed for the better. His experience with the development of the changing taste of opera, with a reference to Luantan popular in the South, demonstrates the importance of being able to be selective concerning music, even when dealing with similar forms. The final advice he offered for the re-creation of ancient music was to believe that it could be achieved by simple means (Xiangyan ju cichen 5.67).

Fang Chengpei's scepticism towards the determination of standard pitches through the Song practice of using millet grains or the method of Watching for the Ethers shows his resentment towards objective standards in the assimilation of musical ideas (Xiangyan ju cichen 5.65). He thought it was not necessary to divert too much effort in the area, and claimed that the first Emperor Taizu of Song (960-75)

created peace for over a hundred years by merely using his aural instinct to determine pitches, while the last Emperor of the Northern Song Huizong (r.1101-25) could not check the rapid decline of the Empire by allocating a lot of resources for the same task (Xiangyan ju cichen 5.66). In the same passage, he pointed out that music came before pitches, another idea close to Wang Yangming and his followers. This is understandable because Fang tried to formulate an imagined perfect musical system from the living tradition of the singing of ci poetry. Practical experience naturally comes before theoretical speculation.

Once the fundamental huangzhong was determined, Fang believed the other eleven pitches could be worked out according to the Method of Triple Division, and he endorsed the extension of the process to cover six additional bian pitches, a practice originated by the Song theorist Cai Yuanding to compensate for the slight deviations in intonation (Xiangyan ju cichen 1.13-14). This demonstrates Fang's eclectic attitude in the way he formulated his theory on music, bearing in mind that he had been relying heavily on the humanistic approach of Wang Yangming, and was against Cai Yuanding's belief of tackling pitches before music.

Fang claimed to have followed Zhu Xi and Cai Yuanding in the use of the seven-degree mode, and condemned the Song theorist Chen Yang for excluding biangong and bianzhi, the two degrees added to the pentatonic mode (Xiangyan ju cichen 4.48). He also believed that heptatonic opera music from the North was superior to the pentatonic tradition of the South (Xiangyan ju cichen 4.46). The reference to the two Song neo-Confucian masters is a simple way to introduce an air of seriousness to his theory relying so much on entertainment music.

If he had a chance to design the bianzhong or bianqing, he would have advocated sixteen bells or sonorous stones in each frame, owing to his awareness of the use of the four higher octave pitches huangzhong, dalü, taicou and jiazhong when the gong degree was fixed to pitches above yize (Xiangyan ju cichen 1.14). Yet by

then, the application of the original Song dynasty theory of distinguishing the hierarchies of the five degrees from the Liji had changed considerably; the Lulu zhengyi adopted a composition style of beginning a piece with the lower yu degree, and therefore assigning a central rather than the lowest position to the gong degree. The reality was these pitched percussion instruments were made according to the range of the music in the Lulu zhengyi, which included, in addition to the twelve pitches in the basic octave, the four lower octave pitches yize, nanlu, wuyi and yingzhong (Wan Yi 1985:48-50).

Fang Chengpei also participated in the debate concerning the authenticity of the twelve ritual songs recorded in Zhu Xi's Yili jingzhuan tongjie. He objected to their syllabic style, and suggested a compromise between syllabic style and the setting of a large number of pitches to a word, a view close to Zhu Xi (Xiangyan ju cichen 2.18). Unlike Wang Xuan, who put his theories into practice, Fang did not provide any music of his own to illustrate his views on ancient music. Even if he had, he would have been criticized for not being sensitive to the current development in the area initiated by the Qianlong Emperor, whose Lulu zhengyi houbian and the Shijing yuepu quanshu under preparation should naturally set a standard for the rest of the Qing dynasty.

He Mengyao (fl.1762) was one of the earliest scholars in the Qing dynasty who treated the Lulu zhengyi on a par with the then fully established Lulu xinshu written by Cai Yuanding. In his Genghe lu [A Collection of Compatible Writings], completed in 1762, he provided commentaries for selected passages from the Qing official music treatise and Cai's book on pitches, so as to provide a theoretical background for his readers to understand a contemporary work Qinxue zuanyao [The Essence of Theories on the Qin] written by Cao Tingdong. Such a juxtaposition of texts implied pitch theories designed for ceremonial music were also applicable to the qin. He obviously found it easier to relate Cai's theory to the qin treatise, particularly

the nine-inch huangzhong pitch-pipe, the six additional bian pitches, and the traditional pitch relationship of the five degrees. The application of the whole-tone concept of the seven-degree mode in the Lulu zhengyi to the qin would have been either impossible or have completely revolutionized this performance tradition. He Mengyao's had therefore failed to break any new ground on the theory of the qin, a view shared by the editors of the Siku quanshu, and the reason for it not being part of the imperial collection (Siku quanshu congmu 336).

While the Kangxi Emperor incorporated a thorough discussion of Western music theory in a supplemental chapter (xubian) in the Lulu zhengyi, the Qianlong Emperor was more interested in the practical aspect of Western music, and made a greater effort to increase the number of Western musicians at court. In addition to the Italian composer Theodoricus Pedrini (1670-1746), a number of Jesuit musicians from Europe were invited to work at court, amongst them the German violinist Florian Bahr (1706-71), the Bohemian theorist Johann Walter (1708-59), the French music scholar, keyboard player and flautist Jean Joseph Marie Amiot (1718-93) and violinist Jean Joseph de Grammont (1736-1812) (Tao Yabing 1992:86).

There is a fundamental difference between the introduction of Western musical elements to the Qing court by the Kangxi and Qianlong Emperors: the former's curiosity about the harpsichord, an instrument introduced to the palace in the early seventeenth century by Matteo Ricci and the subject of a Chinese treatise by Adam Schall at the end of the Ming, was fulfilled when he was taught the Chinese folk melody Pu'an zou on the instrument by Pereira, while the latter Emperor gradually cultivated a taste for Western solo, chamber, orchestral music and opera. Such a shift in aesthetic attitude is related to the missionary endeavours of the Jesuits. A typical example is the French Jesuit Amiot, who performed Rameau's Les Sauvages and Les Cyclopes on the harpsichord, and flute pieces by Blavet, shortly after he reached Beijing after his sojourn in Macau in 1750 (Tao Yabing 1992:77).

The presence of two highly skilled musicians at the court of the Qianlong Emperor, Johann Walter and Florian Bahr, led to the formation of an eighteen-piece vocal and instrumental ensemble of young eunuchs (Macartney 1962:314). In 1750, there were a total of thirty-five Western instruments kept at court, which included ten violins, two cellos, one double bass, eight woodwind instruments, four recorders, seven plucked instruments, one clapper, one bagpipe and one harpsichord (Tao Yabing 1992:88). The court orchestra could theoretically perform most of the music written in the Baroque and pre-Classical periods.

The most important event related to the dissemination of Western music to China during the reign of the Qianlong Emperor was the performance of Piccinni's comic opera, based on Samuel Richardson's novel Pamela, La Cecchina, ossia La buona figliuola at court in 1778, eighteen years after its first performance in Rome (Liao Fushu 1990:50). The taste for Western music of the Qianlong Emperor reflects a fundamental change in attitude towards entertainment music since the disintegration of the Tang Empire in the tenth century. Theorists since the Song dynasty had devoted much energy to the re-creation of a musical tradition close to that of the ideal past, at the same time trying to make a clear distinction with music based on its possible moral effect on human character. There had long been a tradition of promoting ceremonial music officially, while at the same time discouraging the performance of any type of music for entertainment. This was the view held by officials in the eighteenth century, and was exemplified in Li Guangdi's Guyue jingzhuan (Canonical Book and Commentaries on Ancient Music), and above all, the music treatises written under the support of the Qianlong Emperor. The increased activities in Western music are an indication of a weakening in the desire to maintain the traditional Confucian value in music. The fact that the Emperor was seen to be enjoying music that would have been classified by the Confucians as licentious made it difficult for him to promote music that was considered formal and virtuous to his

people. This is one of the reasons for a general decline in the interest in formulating a perfect musical system for the cultivation of human character in the nineteenth century.

European interest in Chinese music increased significantly during the long reign of the Qianlong Emperor. The publication of Du Halde's Description géographique historique, chronologique, politique, et physique de l'Empire de la Chine et de la Tartarie chinoise in Paris in 1735 provided a framework for Western theorists of the eighteenth century to develop their knowledge of music in China. His work, based on Jesuit reports, focuses on the living folk tradition, while overlooking the continuous evolution of ceremonial music, which demanded a thorough knowledge of the Chinese classics and music literature. It includes five Chinese folk melodies, amongst them the melody Wannian huan (Joy Lasting Ten Thousand Years), which later appeared in Rousseau's Dictionnaire de Musique of 1768 (Du Halde 1735:iii 65-70) (Appendix 14). It was used by Weber in his Overture to Turandot, Schiller's adaptation of the play by Gozzi. The same melody reappears in Hindemith's Symphonic Metamorphoses on a Theme by Weber. From a Confucian point of view, Du Halde had chosen the wrong kind of music to illustrate China's achievement over two thousand years. The continued interest in Wannian huan could be seen as a development in the wrong direction.

The publication of Amiot's Mémoire sur la Musique des Chinois tant anciens que modernes in 1779 in Paris demonstrates a change from the earlier desire of Europeans to record casual encounters of Chinese music to scholarly research on the subject, and tackling complicated topics from the origin of the twelve pitches to the tuning of the qin, conducive to an appreciation of the merits of music of the ancient tradition. Yet there was little opportunity for Amiot's work to develop further, owing to the suppression of the Jesuits and to the patronizing attitude of European visitors at the turn of the century, such as the English embassy of Lord Macartney, who were,

unlike the Jesuits, only concerned with material gains, and were generally critical of the culture they found. The moral qualities of ancient Chinese music were irrelevant.

From 1796 to the End of the Qing Dynasty: Rapid Decline in the Value Attributed to Music in Confucian Tradition

The death of the Qianlong Emperor in 1795 marked the end of an era of heavy involvement of the state in publishing. This was partly due to the gradual social and political decline at the turn of the century, and partly the result of the weakening of the desire to demonstrate the acceptance of Chinese Confucian culture by the ruling Manchurians. The most significant contribution of the state in this area in late Qing was the completion of the one thousand chapter Quan tangwen (Complete Collection of the Prose Writers of the Tang and the Five Dynasties) in 1815. Yet it compares poorly with the Kangxi Emperor's Gujin tushu jicheng (The Ancient and Modern Illustrated Collection) or the Qianlong Emperor's Siku quanshu (Complete Collection of the Four Treasuries of Literature), in terms of the breadth and depth. This was not helped by the fading influence of the school of critical studies, which had introduced a scientific approach to the acquisition of knowledge, after the death of some of the most outstanding disciples of Dai Zhen during the reign of the Jiaqing Emperor (1796-1820).

The transition from an apparent powerful state of the eighteenth century to one which was challenged domestically and by foreign aggressors led to a reappraisal of the existing ideas of government. Such a drastic step had been more commonly taken by administrators of a new dynasty rather than those who had the advantage of dealing with crises emerging long after the establishment of the authority to rule. One of the most influential philosophers of the final century of Manchurian rule was Liu Fenglu (1776-1829), whose inclination towards Jinwen xue (New Text School), particularly his enthusiasm for the Chunqiu gongyang zhuan (Gongyang's Spring and Autumn Annals), had provided an impetus for scholars to develop a reformist attitude

towards institutions. His followers included Gong Zichen (1792-1841) and Wei Yuan (1794-1857), who were in favour of technological advances as well as radical changes in social and political institutions. They had the courage to inspire Lin Zexu (1785-1850) to struggle against the British. Whatever the outcome of the event, Liu Fenglu's reformist ideas were further developed by Kang Youwei (1858-1932), the architect of the aborted Hundred Days Reform in 1898, and the last influential official of the Qing dynasty who was in favour of a monarchy, which by then had lost the authority to rule.

The reformist ideas of the followers of Liu Fenglu inhibited the development of the more traditional branch of learning founded on the Song neo-Confucian school. Their idea of introducing radical changes to administration on the ground of technical merits weakened the traditional value of achieving a stable society through cultivating the moral character of individuals. This would lessen the desire of officials and private individuals to emphasize the Confucian value of music, the reason for a drastic reduction in the output of treatises concerned with the topic in the nineteenth century. In fact, the official history of the Qing dynasty only briefly refers to the achievement in ceremonial music of the Jiaqing Emperor (r. 1796-1820), while ignoring the contributions of the Daoguang (r. 1821-50), Xianfeng (r. 1851-62) and Tongzhi Emperors (r. 1862-74) in the area (*Qingshi gao* 94.2760). Ironically, it was the outbreak of the social crisis of the Taiping rebellion in 1850 and its successful quelling in 1864 that had enabled Zeng Guofan (1811-72) and Li Hongzhang (1823-1901) to advocate the orthodox ideas of Cheng Yi and Zhu Xi favoured by followers of the Tongcheng School. This provided a respite for conservative thinkers to argue for the retention of existing tools of administration while adapting the practical knowledge of the West, before the more radical ideas of Kang Youwei came to dominate towards the end of the century.

There was little excuse for music officials of the nineteenth century to alter the system of ceremonial music provided in the Lulu zhengyi, yet there was still a sporadic literary output related to the subject. Jiang Fan's (1761-1830) Yuxuan kao [An Investigation on Suspended Instruments], published in 1813, was based on the commentaries of the Han scholar Zheng Xuan on the ritual classics. The only small contribution he had made was the idea that there should be sixteen bells or sonorous stones for the bianzhong and bianqing, which could either be twelve basic pitches with the higher octave of huangzhong, dalü, taicou and jiazhong, or twelve basic pitches with the lower octave of yingzhong, wuyi, nanlü and yize (Yuxuan kao 1.4a-4b). This flexible approach enabled him to accommodate the moral value associated with the five degrees of the Song and Qing dynasties. In spite of his modest achievement, the dedication of the book to one aspect of ancient musical practice reflects the desire to pursue a subject matter in depth, an important aspect of critical scholarship developed by Dai Zhen in the seventeenth century.

Wu Qiao's (fl.1843) general treatise on ancient music Nanguang lu [Records of Nanguang], completed in 1843, had little to add to existing theories. His idea about ancient music was largely inspired by the Ming philosopher Wang Yangming, who took the easy way of cultivating the mind in order to extract virtuous elements from contemporary entertainment music, instead of being engaged in the complicated process of scholarly investigation (Nanguang lu Preface.1a). This was the view held by eighteenth-century theorists such as Wang Xuan and Jiang Yong. Wu found it necessary to remove the prejudice of Confucian scholars towards practical musicians before there was any hope of restoring the ancient musical tradition, and he made no distinction between the merits of different types of notations (Nanguang lu 10b-11a). He favoured the Song idea of determining pitches by aligning millet grains, but was against any complicated way involving calculations, including Zhu Zaiyu's theory of equal temperament (Nanguang lu 28b-31a). His formulation of the five degrees, as

illustrated in the gong mode of huangzhong, was huangzhong (gong), taicou (shang), guxian (jue), linzhong (zhi) and nanlu (yu) (Nanguang lu 5b). This was identical with traditional practice, but was incompatible with the whole-tone system for ceremonial music provided in the Lulu zhengyi. Like Jiang Fan, he took a flexible approach to the design of the bianzhong and bianqing by suggesting twenty-four bells and sonorous stones a set, consisting of twelve from the basic octave, six from the lower octave including ruibin, linzhong, yize, nanlu, wuyi and yingzhong, and six from the higher octave, including huangzhong, dalü, taicou, jiazhong, guxian and zhonglü (Nanguang lu 36b). Such an arrangement fits in with both the Song idea of maintaining the gong degree below the shang and jue in all transpositions and the Qing practice of reserving the central position to the gong.

By then, Beijing opera had become a popular entertainment in the Chinese capital. Wu recorded it was performed at the court of the Daoguang Emperor (r. 1821-50), but insisted that there should not be any connection between the order of the state and the quality of music (Nanguang lu 28b). While ceremonial music was still performed, there was much less official hostility towards entertainment music, a legacy partly due to the hectic musical activities of Western musicians in the previous century. Beijing opera was to have a more important position at the Qing court when it became a favourite hobby of Empress Dowager Cixi (1835-1908), who was to assume power in 1862.

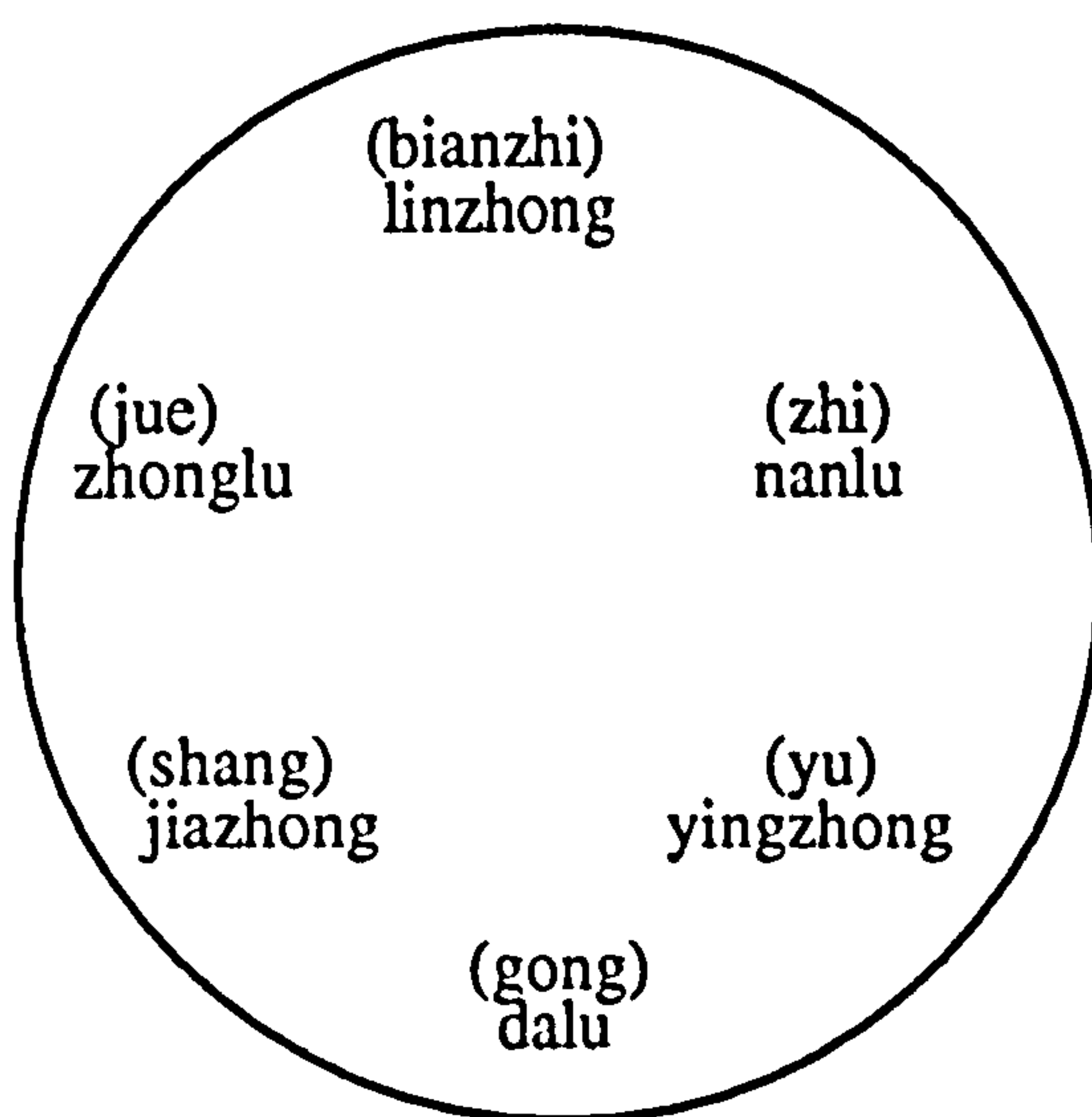
One of the most original theorists during the reign of the Daoguang Emperor was Bi Huazhen (fl.1848), whose one-chapter Lulu yuanyin [The Origin of Pitches], completed in 1848, explored the possibilities of interpreting the modal arrangements for music performed at sacrificial rituals provided by the Zhouli (22.13b-14a) in the context of the modal system outlined in the Lulu zhengyi. His logic was that serious music might not be necessarily written in modes cadencing in the lower register:

Sacrificial music for heavenly spirits should be in the gong mode of yingzhong, that is, huanzhong. The gong mode of zhonglü, that is hanzhong,

should be used for sacrificial music for earthly spirits. The modes for these rituals can vary between yu, jue and higher gong, so that the music could be heard by these spirits. The gong mode of huangzhong should be used for sacrificial ritual for human spirits, because it is appropriate to use a low register for spirits below. In general, it is necessary to choose modes of the correct register for different rituals.

(Lulu yuanyin 5a)

His interpretation of the pitch huanzhong as yingzhong is different from the established tradition of regarding it as jiazhong since the Han dynasty. Similarly, the suggestion of treating hanzhong as zhonglu bears no relation to the orthodox view of treating it as linzhong. Yet he illustrated his views by means of a simple diagram, juxtaposing six pitches in a circle to demonstrate the cyclic relationship between the degrees defined in whole-tone context of the Lulu zhengyi:



(Lulu yuanyin 5a- 5b)

In the same passage, he provided the reasons for such an arrangement. They were based on the assumption that the shang and the two bian degrees, biangong and bianzhi, should not be used for music for sacrificial rituals. When the first feminine pitch dalu is taken as gong, jiazhong will be the shang degree, and is considered to be against the Zhou practice of avoiding the degree which is associated with metal of the

five elements. Therefore, huanzhong could not possibly be interpreted as jiazhong. In any case, the character huan means a circle, and it takes one complete cycle to reach it from the pitch dalü, if huanzhong is taken as yingzhong. Similarly, the traditional way of interpreting hanzhong as linzhong will not work, because it will then become the bianzhi degree in the gong mode of dalü. The problem will not arise if hanzhong were taken as zhonglü.

There is a fundamental difference between the design of the mode presented in the Lülü yuanyin and Lülü zhengyi: the former outlines a six-degree mode while the latter a seven-degree mode. Bi Huazhen had excluded the biangong degree because he thought the meaning of the character bian (change) would have a poor moral meaning when it was applied to gong, the degree representing the Emperor (Lülü yuanyin 10a). The advantage of this new arrangement is that it preserves the whole-tone structure of the mode outlined in the Lülü zhengyi, while allowing the doubling of the degrees to coincide with the doubling of the pitches, as in the traditional relationship between degrees and pitches. This is done by narrowing the interval between the lower yu and gong degrees to a whole-tone.

Bi Huazhen also explored the connotations of five degrees, a practice favoured particularly by followers of the Han dynasty New Text School. While there had been numerous attempts in associating these basic elements of music with tangible and intangible qualities, he was one of the first to be inspired by natural phenomena: "When shang is played, cool wind will arrive. When jue is played, grass and flowers will grow well. When yu is played, rivers and ponds will have abundant supply of water. When zhi is played, the sun will shine brightly." (Lülü yuanyin 18b) The connection between a degree and a dynamic aspect of nature does not clarify its musical meaning, but reinforces the idea that music is an indispensable quality of human beings.

Like most theorists concerned with exploring the characteristics of ancient music, Bi Huazhen commented on the ideal way of setting music to words. He disapproved of the rigid style of syllabic setting, as in the case of Zhu Xi's Yili jingzhuan tongjie or the Lulu zhengyi (Lulu yuanyin 17a). This helped him bring out the idea of regarding nanqu, the pentatonic operatic music of the south, as music of the proper tradition, while at the same time accepting beiqu, the heptatonic operatic music of the north (Lulu yuanyin 22b). His invention of a six-degree mode could be the result of the compromise between the pentatonic and heptatonic characteristics of southern and northern operatic tradition. If Wang Yangming were the first to suggest making use of entertainment music to restore the ancient tradition, Bi Huazhen should be remembered as one of the first to work out the technical details. Such a liberal amalgamation of old and new elements with an emphasis on practical orientation would not have been possible without the philosophical background provided by Liu Fenglu and his followers.

As in the last phase of any other major dynasties, the political climate of the Qing from mid-nineteenth century did not favour the propagation of music as an effective tool for maintaining the order of the state. This is because the moral cultivation of an individual through music is a slow process and its success depends largely on an acceptance of the hierarchy of society. Yet the authority of the Manchurians to rule began to be undermined severely after defeat in the Opium War in 1842. In addition, this bitter experience aroused a patriotic feeling amongst ruling Confucian officials, and a desire for instant solutions to deal with apparent military incompetence. The slogan of a typical progressive official of the New Text School like Wei Yuan (1794-1857) was to make use of the technological advances of the West to conquer the West, and to achieve real results by paying attention to practical matters (Gernet 1982:591). In this context, the notional perfect tradition of music is neither a foreign invention, nor a practical entity directly concerned with more

pressing needs of the period, such as reforms of political, social, economic and military institutions.

The Taiping rebellion from 1850-64, involving some 20 million casualties, was a more severe challenge of the authority of the state, owing to the declaration of Hong Xiuquan, the rebel leader from Guangdong, that he was the son of God and the younger brother of Jesus Christ, a rival to the supreme power of the Emperor. Another rebellion which had inflicted serious military and moral damage on the Qing court was that of the Nian during 1851-68 in the north. During these two decades, the Confucian rulers had to divert their energy and resources to a series of military campaigns against the two rebel forces, which occasionally worked together. The success in pacifying the turmoil relied heavily on the efforts of Zeng Guofan (1811-72) and his close associate Li Hongzhang (1823-1901), who were strong advocates of the existing Confucian administration systems. Given the urgency to resolve these internal crises, it is unrealistic to expect that much attention would be given to the discussion of a perfect music system.

The fate of China was largely in the hands of Empress Dowager Cixi (1835-1908), notorious for her political ambition and desire for luxurious living, and her conservative officials, from the ascension of the five-year old Tongzhi Emperor in 1862 to the death of the Guangxu Emperor in 1908. Her favourite official was Li Hongzhang, who was from 1870 to 1895 Grand Secretary in charge of foreign affairs. Li's philosophy of introducing Western technology in the strict context of Confucian ideals was to be challenged by a new generation of followers of the New Text School, led by Kang Youwei (1858-1927) and his follower Liang Qichao (1873-1929), who demanded radical reforms on all fronts, including the introduction of a constitutional monarchy, after a series of humiliations by the French, British, and above all, the Japanese in the signing of the Treaty of Shimonoseki in 1895.

Kang Youwei's enlightened view of Confucius as a democratic reformer led to a close examination of the possibilities of an idealized egalitarian state without the distinction of frontiers, civilizations, social classes, family units and gender, in his Datong shu (Book of the Great Unity), written in 1897 but published after his death in 1935. There is hardly any need to look for Confucian tools such as rites and ceremonial music to cultivate the moral standard of individuals: their high educational standards will be guaranteed by the scientifically organized curricula of communal nurseries and schools. Since the principal role of music in this gigantic utopian state is to provide entertainment for the public, only music which is pleasing to the ears will be performed in venues such as delivery rooms, hospitals and public music-halls. He also suggested that music should be taught in primary and secondary schools, foreshadowing the fashion of composing songs in Western style (xuetang yuege) after the reform movement in 1898 (Thompson 1958:196-97). Kang Youwei's acknowledgement of the merits of Western music and his idea of widening its accessibility were consistent with the general desire to Westernize, but contrary to the Confucian ideal of strict control of musical quality, and of who should be taught the subject.

Some had serious doubts about the role of music. The Zhouli had traditionally been a source of inspiration for the introduction of new policies during political crises since the brief usurpation of Wang Mang (d.23 A.D.) in the Former Han dynasty (206 B.C.-22 A.D.). Sun Yiyang's (1848-1908) Zhouli zhengyao [The Essence of Administration in the Zhouli] of 1902 still lists the six arts (rites, music, archery, riding, writing and mathematics) valued by Confucian scholars, but suggests the first two are totally irrelevant to contemporary needs. He also demanded the removal of the other four areas of learning, replacing them with Western mathematics, owing to its connection with different fields of science (Zhouli

zhengyao 1.14b-15a). Subjects necessary for the cultivation of the individual mind gave way to those related to technology.

An important blow to the maintenance of Confucian values was the abolition, in 1905, of the Confucian examination system, which had come into existence during the reign of Wudi (140-86 B.C.) of the Han dynasty, and always included the classics as the core syllabus. This was the direct result of the increased presence of foreign powers from 1898, and the disastrous patriotic resistance against them during the Boxer Uprising in 1900. Confucian scholar-officials had great difficulties in compromising classical ideals with reality. The only noticeable effort in music in the final years of the powerless Guangxu Emperor (r.1875-1908) was to follow the examples of European nations and the United States by composing military music and a national anthem (Qingshi gao 94.2760). There is no evidence that these were ever achieved. Even if they were, they would be a far cry from the basic definitions of ceremonial music as simple, harmonious, slow and monophonic in the Liji.

The announcement in 1908 of a gradual introduction of constitutional monarchy based on the model of the Japanese Meiji Restoration in 1868 further diluted the Confucian value of the hierarchy of the state by loosening control on the people. Yet the moral value of music was still appreciated by Cao Guangquan of the Ritual Department in his memorandum to his superior in 1910, the year after the last Emperor Xuantong (r.1909-11), or Puyi, as he was commonly known, ascended the throne. Cao still quoted the Liji in his support when he advocated using music as a tool to cultivate the character of an individual, but he had to accept Chinese songs in Western style (xuetang yuege) as the basic material (Qingchao xu wenxian tongkao 188.9341). There was absolutely no room for the rigid musical system of the Zhouli, nor any question of relying on the procedural details of ceremonial music in the Yili: a vague reference to the Liji was enough to demonstrate the desire to carry on the Confucian tradition, no matter how fragile the doctrine had proved to be.

Notes

- ¹ The opera Dinu hua 帝女花 [The Transformation of the Ming Princess Into a Flower], an important repertoire of the Xianfeng Ming Opera Group founded in 1956, is known to almost every Cantonese speaker.

Conclusion

The present thesis has endeavoured to investigate the influence of the three Chinese Confucian ritual classics on the formulation of ideas of the lost musical tradition of the ideal past from the Han to the Qing dynasty. The inevitable conclusion of such a study must be that Confucian scholars of different periods endorsed the tremendous value of music to the state, and were ready to claim that they had followed the spirit of the ritual classics in putting forward their ideas in music, no matter how little they had actually made use of the texts.

Each of the three ritual classics provides a different aspect of what was believed to be the perfect musical system of the Zhou dynasty: the Liji consolidates the didactic value of music by exploring the subject morally, while the Zhouli and Yili focus on the structure of the musical organization and the procedures of the various ceremonies respectively. In terms of relevance to the re-creation of the ancient performing tradition, the Liji is the most imprecise source; it merely conveys the message that music is part of nature and that it would retain its positive influence on human character if care has been taken to screen out elements conducive to excessive emotion, an almost Aristotelian view. The Zhouli, on the other hand, is exact in its description of the ranks, numbers and duties of music officials. It should, theoretically, be the most important text to follow if the physical nature of the music organization is considered the basis for the determination of other aspects of musical performance. It is also not short of technical information on music, particularly the section Dasiyue (Grand Director of Music), where, in addition to vague organological information, modal sequences for the notional six ancient pieces of music and sacrificial music for heavenly, earthly and human spirits are outlined. Like the Zhouli, the Yili provides vital information concerned with the technicalities of musical performance, including the sequence of events, exact positioning of instrumental players and singers and song repertoire.

Theoretically, the Liji should be the stimulus for the provision of a musical system beneficial to the administrators of the state, while the Zhouli and Yili should form the basis for the revival of ancient musical practice. In reality, scholars of different periods were largely in favour of first working out their own theories on music, before selecting passages from the ritual classics to justify themselves. In the process, they were, of course, influenced by their own understanding of Confucian doctrines. As a result, few would exhaust all musical information in the ritual classics before recommending a musical system believed to be creditable. Of the some twenty sub-sections concerned with music in the Zhouli, the Dasiyue is referred to most frequently; a large number of theorists simply ignored the other passages. Similarly, there are a number of ceremonies in the Yili related to how and what music is performed, yet the ceremony most frequently referred to is the one for district banquets. The same selective attitude also applies to the use of the Liji, of which the most important passages include part of the Yueling (Monthly Commandments) and a small section of the Yueji (Book of Music). The brevity of the text has, however, allowed different ways of interpreting the same passage, and therefore leading to numerous possibilities in handling the ritual classics.

The choice of ritual texts and the ways they are interpreted vary according to the inclination of an individual, but they also relate to the general philosophical trends of a particular period. In the Former Han dynasty, the overwhelming influence of the teaching of the New Text School led to an interest in correlating music to the theory of yinyang and different aspects of nature, resulting in the strengthening of the understanding of the meaning of basic elements of music, including the exact definition of each of the twelve pitches in the octave, five degrees and eight sources of instrumental sound. The most outstanding achievement in this respect is Jing Fang's complicated theory of dividing the octave into sixty, an indication of the desire to find a mathematical solution to the inaccurate generation of pitches by the Method

of Triple Division, and providing a foundation for later theorists to work on. A small portion of the moralizing text in the Yueji of the Liji, for example, could provide the basis for this purpose. The functional nature of the Yili text would not have been seen by New Text scholars as having the potential for further development in the direction they favoured. The adoption of the Zhouli would have been unthinkable, owing to the exclusive transmission of its text by followers of the rival Old Text School.

The increased influence of Old Text scholarship in the Later Han dynasty led to a rejection of the mystic approach of the preceding period in interpreting the basic elements of music. Scholars such as Wang Chong began to take a more rational attitude towards the properties of sound, and were ready to challenge existing beliefs in the supernatural power of music, weakening the relationship of music to nature. The basic idea of distinguishing good and bad music in the Yueji provided enough background for a quasi-scientific way of looking at music perception: it was no longer taken for granted that the application of the right kind of music would automatically lead to the desired moral influence on human beings. There was a recognition of the need to take the listeners into account. This shift of emphasis of music to the human level paved the way for future practical application of the ritual classics. This was further enhanced by the gradual acceptance of the Zhouli, an Old Text ritual classic with technical information on musical performance.

The adoption of Confucian doctrines in the long ruling dynasty of the Han guaranteed its continued influence during periods in turmoil or of strong foreign influence. During the series of short dynasties from the third century to the end of the sixth century, there were sporadic attempts in instituting music of the old tradition, a natural development after continuous theoretical speculations in the Han. The focus had largely been on the determination of correct pitches, considered the first step in reviving the old musical tradition. Such a process seldom went beyond

the alignment of millet grains and the adoption of old measures to standardize the length of the pitch-pipes. There were also further attempts to devise an accurate system of generating the twelve pitches within the basic octave, leading to the extension of Jing Fang's sixty pitches to 360 in the calculation. The vague idea of the virtuous ancient musical tradition in the Yueji was enough to stimulate in-depth discussions on the subject. A small section of the Yueling (Monthly Commandments) in the Liji provided further inspiration for a revival of the Han idea of assessing the ruling position of the Emperor by using pitch-pipes in the experiment of Watching for the Ethers. There were, on the whole, less reliance on the Yili or Zhouli, possibly owing to the fact that few Emperors had the opportunity of going further than instituting pitches, and therefore having the need to consult the two ritual classics for this purpose.

In the Sui and Tang dynasties from the end of the sixth century to the beginning of the tenth century, the didactic value of music was at least claimed to be appreciated, in spite of tremendous Buddhist influence and the proliferation of foreign and entertainment music at court. The interest in finding the correct pitches continued, while the experiment of Watching for the Ethers was still seen as a means to ensure pitch-pipes were properly tuned. Again, a vague reference to the Yueji and Yueling in the Liji would have been enough for Confucian scholars of this period to carry out these exercises. Meanwhile, the modal prescriptions for six ancient dances and for the three sacrificial rituals in the Zhouli were adapted for ceremonial music according to the understanding of the period. This was also the period alleged to have left twelve musical settings of the poems referred to in the Yili, the most direct use of the classic in the re-creation of the old musical tradition. Otherwise, the Sui and Tang era could well be criticized for doing little to uphold Confucian value in music defined clearly in the Han dynasty.

The liberal mind and the practical orientation of Confucian scholars in the Song dynasty had, in the first place, led to active debates on pitches, followed by other technical aspects of musical performance. Particular emphasis was given to the discussion of the ideal number of bells and sonorous stones, using, in most cases, the Yueji passage about the hierarchy of the five degrees as a starting-point. Scholars in favour of the sixteen-piece bianzhong or bianqing used the Yueji to elaborate their theory of equating respect with lowliness in pitch, while those advocating the range of twelve pitches used the notion of harmonious sound in the same ritual classic to justify their desire to exclude higher octave pitches. Indeed, these references in the Yueji continued to influence the ways pitches were determined in the controversial Dasheng Institute. The most thorough investigation of the relationship of the three ritual classics was conducted by the neo-Confucian master Zhu Xi, who held utmost respect for the Yili, while treating the Zhouli and the Liji as a kind of index and antique commentary respectively. Zhu Xi's most significant contribution in this area was his transmission of the twelve ritual songs according to the plan of the Yili, leading to numerous imitations, and, at the same time, standardizing the style of musical writing. His pupil, Cai Yuanding, developed his theory of pitches based on a tiny section of the Yueling.

The emphasis on self-cultivation in the Ming dynasty provided the freedom for scholars to incorporate more new ideas in formulating music. The notion of virtuous music in the Yueji was enough to generate a wide range of music theories. Most scholars accepted the validity of the musical content of the three ritual classics and put forward their interpretations of the texts, but some chose to challenge their relevance and looked for inaccuracies in specific passages. Ironically, there is little indication, or indeed any scientific method, to show that scholars in the first category were any closer to the original spirit of ritual classics than those in the second category. Advocates of the ritual classics used selected passages to enhance their

own credibility, while those denouncing particular sections of classical texts were often controversial, and showed a desire to change existing traditions. As a result, some of the ways of writing ceremonial music in the Ming were so original that they were not imitated by later musicians. The subjective attitude of Ming scholars also led to suggestions to alter the original texts of the ritual classics, such as in the case of Zhu Zaiyu, in order to accommodate their own music theories. One can argue that Zhu Zaiyu's theory of equal temperament was a typical intellectual product of the period, but he could not have discovered it if he was not liberal enough to ignore the rigid hierarchy of pitches and degrees, particularly that discussed in the Liji. The Zhouli continued to be the most vital source for modal designs, while the twelve poems in the Yili inspired theorists to provide musical settings thought to be according to the old tradition.

The didactic value of music expressed in the Liji went on to be appreciated in the Qing dynasty, and the tradition of re-creating ancient music continued even though China was ruled by foreign Manchurians. The favouring of Han interpretations of the classics and the incorporation of scientific skills in the process had led to some success in the construction of instruments according to the Zhouli. The direct involvement of the long-ruling Kangxi and Qianlong Emperors in instituting music did not completely stop private discussions in the area, but it led to the establishment of a musical system which would have a guaranteed influence in the remaining ruling period of the Qing. The ritual classics provided the inspiration for court theorists and private individuals, but the end results could differ drastically, varying from Mao Qiling's chromatic relationship of the seven degrees to the whole-tone concept of the seven degrees defined in the official treatise Lulu zhengyi. Other theorists followed the traditional idea of degrees and modes. The Yili's twelve poems were still believed to possess the antiquarian quality crucial to the realization of the didactic potential of music in the late eighteenth century. The presence of

Jesuit musicians at the Qing court did not have much obvious effect on the ways the official musical system was established. Confucian scholars in the nineteenth century were aware of the advanced development of Western technology, but they continued to uphold the value of music in the maintenance of the order in the state. It was always possible to find a way to interpret the ritual classics so that scholars could justify whatever kind of music the ruler chose to promote. The inseparable link between music and the state was still recognized long after the disappearance of the Confucian state in this century; it was exploited by Jiang Qing in her effort to ensure the speedy success of the Cultural Revolution. Such a view of music will remain until there is a new relationship between the ruler and those ruled.

Glossary

Ai Zhongru 艾仲儒

An Lushan 安祿山

Bai Juyi 白居易

Baihua 白華

Baihutong delun 白虎通德論

Baixue 白雪

ban 半

Ban Biao 班彪

Ban Gu 班固

bei 倍

beiqu 北曲

bensheng 本聲

Bi Sheng 畢昇

bian 變

bianlu 變律

bianqing 編磬

biansheng 變聲

bianzhong 編鐘

bili 筭策

Bin Mujia 賓牟賈

biqu 畢曲

bo 搏

Book of Yu 虞書

boshi 搏師

bozhong 搏鐘

Cai Yong 蔡邕

Cai You 蔡攸

Caifan 采蘩

Caipin 采蘋

Cao Guangquan 曹廣權

Cao Tingdong 曹庭棟

chang 鱮

Changsun Zhi 長孫稚

Chen Renxi 陳仁錫

Chen Xianzhang 陳獻章

Chen Yang 陳暘

Chen Zhongru 陳仲儒

Cheng 鄭

Cheng Hao 程灝

Cheng Yi 程頤

Chengdi 成帝

Chengdu 成都

Chenghua 成化

chǐ 齒

chí 篋

chongdu 春牘

Chongqiu 崇丘

Chongzhen 崇禎

Chuci 楚辭

chunguan 春官

Chunqiu 春秋

Chunqiu gongyang zhuan 春秋公羊傳

ci 詞

Cixi 慈禧

congsheng 從聲

Cui Lingqin 崔令欽
Dacheng 大成
Dahuo 大獲
Dai Zhen 戴震
Daizong 代宗
dalü 大呂
dao 道
Dashao 大韶
Dasheng 大晟
Dasheng yueshu 大晟樂書
dashi 大師
dasiyue 大司樂
Datang yue 大唐樂
Dawu 大武
Daxia 大夏
Daxian (Xianchi) 大咸 (咸池)
daxu 大胥
Daxue 大學
daya 大雅
dayue 大樂
Dayue yi 大樂議
Dayun jing 大雲經
deyin 德音
Dezong 德宗
di 笛
dianrui 典瑞
diantong 典同
dianyongqi 典庸器

diguan 地官
dilushi 鞮鞮氏
Ding Du 丁度
Dong Zhongshu 董仲舒
dongguan 冬官
Donglin group 東林黨
Dou, Empress 竇太后
Du Kui 杜夔
Duan Anjie 段安節
duo 咄
Erya 爾雅
fan 蕪
Fan Zhao 范昭
Fan Zhen 范鎮
Fan Zhongyan 范仲淹
Fang Chengpei 方成培
fangxiang 方響
fangqing fuming 反清復明
Fatan 伐檀
Fayan 法言
Fei Yuan 裴蘊
fen 分
Feng Quan 馮銓
Feng Yuan 馮元
fu 府
Fuxi 伏羲
Gaixia 陔夏
Gao Lu 高閭

Gaozong 高宗

Gaozu 高祖

ge 葛

Ge Hong 葛洪

Genghe lu 廣和錄

Getan 葛覃

gōng 宮

gōng 觥

Gong Zizhen 龔自珍

Gongsun Chong 公孫崇

Gongsun Nizi 公孫尼子

gongxuan 宮縣

gu 鼓

Gu yueshu 古樂書

guan 管

Guangdong 廣東

Guanju 關雎

Guanzhong 管仲

Guanzi 管子

Guizhou 貴州

Gujin tushu jicheng 古今圖書集成

gumeng 瞽矇

Guo Moruo 郭沫若

Guo Xiang 郭象

guofeng 國風

Guoyu 國語

guren 鼓人

guxian 姑洗

guyue 古樂

Guyue fuxing lu 古樂復興錄

Guyue jingzhuan 古樂經傳

Guyue quanti 古樂筌蹄

han 含

Han 漢

Han Bangqi 韓邦奇

Han Ying 韓嬰

Han Yu 韓愈

Hanlin Academy 翰林院

Hanshi waizhuan 韓詩外傳

Hanshu 漢書

hanzhong 函鐘

he 和

He Chengtian 何承天

He Mengyao 何夢瑤

He Tang 何塘

He Tuo 何妥

He Xian 和峴

heqi 和氣

hesheng 和聲

Hong Chengchou 洪承疇

Hong Xiuquan 洪秀全

Hongwu 洪武

Hongzhi 弘治

Houji 后稷

houqi 候氣

Hu Ba 瓠芭

Hu Guang 胡廣
Hu Yuan 胡瑗
Hu Juren 胡居仁
Hu Rui 胡瑞
Hu Wei 胡渭
Hu Yansheng 胡彥昇
Huai 淮
Huainanzi 淮南子
Huang Chao 黃巢
Huang Gan 黃幹
Huangdi 黃帝
Huanghuang zhe hua 皇皇者華
Huangming shifa lu 皇明世法錄
Huangyou xinyue tuji 皇祐新樂圖記
huangzhong 黃鐘
huanzhong (jiazhong) 圓鐘（夾鐘）
Huashu 華黍
Huayuan qing 華原磬
Huidi 惠帝
Huizong 徽宗
ji dacheng 集大成
Ji Kang 嵇康
Jia Gongyan 賈公彥
Jia Yi 賈宜
Jiajing 嘉靖
Jiang Fan 江藩
Jiang Kui 姜夔
Jiang Qing 江青

Jiang Yong 江永

Jiangjing hui 講經會

jiangshen 降神

jiangu 建鼓

Jiangyuan 姜嫄

Jiangzhou 江州

jianshen 薦神

Jianwen 建文

jiaofang 教坊

Jiaofang ji 教坊記

jiazhong 夾鐘

Jie 桀

Jiegu lu 羯鼓錄

jin 斤

Jin 晉

Jing Fang 京房

Jingshan yuelu 竟山樂錄

Jingtai 景泰

jingu 晉鼓

Jinshi 金史

Jinshu 晉書

Jinwen xue 今文學

Jiubian 九辯

Jiude 九德

Jiuge 九歌

jiugong 九宮

Jiushao 九韶

Jiutan 九嘆

Jiuze 九則

Jiuzhang 九章

jǔ 枸

jū 雛

Juan'er 卷耳

jue 角

jujiu 睢鳩

jun 均

junsheng 君聲

kan 坎

Kang Youwei 康有爲

Kangxi 康熙

Kangxi zidian 康熙字典

kao 考

Kaogong ji 考工記

Kaozheng xue 考証學

Kong Yingda 孔穎達

Kongsang 空桑

Kongzi xianju 孔子閒居

Kui 夔

kun 坤

lái 萊

lài 籟

Laozi 老子

lei 壘

leigu 雷鼓

leitao 雷鼓

Leng Qian 冷謙

lǐ 里

lǐ 理

lǐ 鯉

Li Dui 李兌

Li Gong 李塏

Li Guangdi 李光地

Li Hongzhang 李鴻章

Li Jie 黎傑

Li Mengyang 李夢陽

Li Qingzhi 李清植

Li Wenchang 李文察

Li Wenli 李文利

Li Yannian 李延年

Li Zhao 李照

Li Zhizao 李之藻

Li Zicheng 李自成

Li Zong'e 李宗諤

Liang 梁

Liang Qichao 梁啟超

liangzhi 良知

Liao Daonan 廖道南

Libuji 立部伎

Liji 禮記

Liji zhengyi 禮記正義

Lijing 禮經

Lin Zexu 林則徐

Ling Lun 伶倫

linggu 靈鼓

lingtao 靈鼓

Liu An 劉安

Liu Bing 劉昺

Liu Fang 劉芳

Liu Fenglu 劉逢祿

Liu Ji 劉幾

Liu Lian 劉濂

Liu Shen 劉詵

Liu Xiàng 劉向

Liu Xiáng 劉翔

Liu Xin 劉歆

Liu Yuanyan 柳願言

Liu Zhao 劉昭

Lixiang kaocheng 曆象考成

Lizong 理宗

Lizou 狸首

Longmen 龍門

Lou Liang 婁諒

lǚ 呂

lǜ 律

Lu Buwei 呂不韋

Lu Cai 呂才

Lu Jia 陸賈

luantan 亂談

lugu 路鼓

Luli rongtong 律曆融通

Luli yuanyuan 律曆淵源

Lulu jingyi 律呂精義

Lulu xinlun 律呂新論

Lulu xinshu 律呂新書

Lulu yuansheng 律呂元聲

Lulu zhijie 律呂直解

Luming 鹿鳴

Lunheng 論衡

Lunyu 論語

luo 落

Luoyang 洛陽

Lushi chunqiu 呂氏春秋

Lushu 律書

lutao 路鼓

Ma Guohan 馬國翰

Ma Rong 馬融

Ma Wensheng 馬文升

Mao Qiling 毛奇齡

Mao Shuang 毛爽

maoren 旄人

meishi 昧師

Mengzi 孟子

miao 苗

Mount Yangtou 羊頭山

Nan Zhuo 南卓

Nanfeng 南風

Nangai 南陔

Nanguang lu 難光錄

Nanjing 南京

nanlu 南呂

Nanqishu 南齊書

nanqu 南曲

Nanshan youtai 南山有台

Nanyou jiayu 南有嘉魚

Ni Fu 倪復

Nian 捻黨

Nie Shuangjiang 聶雙江

Ningzhou 寧州

niu 扭

Niu Hong 牛弘

Nuwa 女媧

Ouyang Xiu 歐陽修

paiyou 俳優

Pei Yaoqing 裴耀卿

pi 顰

pin 蘋

Ping, Duke of the State of Jin 晉平公

Ping 平

Pipa xing 琵琶行

Pu 濮

Pu'an zou 普庵咒

Puyi 溥儀

qǐ 杞

qì 氣

Qi 齊

Qi Shutí 齊樹提

qian 乾

Qian Lezhi 錢樂之

Qianlong 乾隆

Qianqing Palace 乾清宮

qidiao 起調

qin 琴

qing biangong 清變宮

qing huangzhong 清黃鐘

Qing shigao 清史稿

qing wuyi 清無射

Qingbai leichao 清稗類鈔

qinggong 清宮

qingjue 清角

Qingmiao 清廟

qingshang 清商

qingsheng 清聲

qingshi 磬師

qingzhi 清徵

Qinxue zuanyao 琴學纂要

Qiu Zhilu 邱之桂

qiuguan 秋官

Qu Yuan 屈原

Quan tangwen 全唐文

Quechao 鵲巢

ren 仁

Renzong 仁宗

rong 容

Ruan Ji 阮籍

Ruan Yi 阮逸

ruibin 蕤賓

sanfen sunyi fa 三分損益法

Sangjian 桑澗

sanxian 三絃

se 瑟

shang 商

shanggu 上瞽

shangshi 上士

Shangshu 尚書

Shangsong 商頌

Shanxi 陝西

Shao 韶

Shao Yong 邵雍

Shaonan 召南

shēng 笙

shēng 聲

Sheng wu ai-le lun 聲無哀樂論

shengpu 笙譜

shengqing 笙磬

shengshi 笙師

shengzhong 笙鐘

Shengzu 聖祖

Shenzong 神宗

sheshao 舍少

shi 史

Shi Kuang 師曠

Shiji 史記

Shijing 詩經

shiliao 眡瞭

Shiyan 師延

Shiyi 師乙

Shu 蜀

shu 數

Shuli jingyun 數理精蘊

Shun 舜

Shunhe 順和

Shunzi 順治

shuopi 朔顰

Shuowen jiezi 說文解字

Shuoyuan 說苑

Si River 泗

sigan 司干

Siku quanshu 四庫全書

Siku quanshu zongmu 四庫全書總目

Sima 司馬

Sima Guang 司馬光

Sima Qian 司馬遷

Sima Tan 司馬談

Simu 四牡

Sixia 肆夏

Song 宋

song 頌

Song huiyao 宋會要

Song Qi 宋祁

Song Shou 宋綬

songqing 頌磬

Su Shi 蘇軾

Su Wei 蘇威

Sui 隋

Sun Fu 孫復

Sun Yiyang 孫貽讓

tai 臺

taicou 太簇

Taiping Rebellion 太平天國

Taiping yulan 太平御覽

taishi 太師

Taixuan 太原

Taizong 太宗

Taizu 太祖

Táng 唐

Tāng 湯

tang 蕩

tangshang 堂上

tangxia 堂下

tao 鼗

teqing 特磬

tianguan 天官

Tongcheng School 桐城派

tu 徒

tugu 土鼓

waipian 外篇

wan 萬

Wan Sida 萬斯大

Wan Sitong 萬斯同

Wang Anshi 王安石

Wang Bangzhi 王邦直

Wang Bi 王弼

Wang Chong 王充

Wang Fuzhi 王夫之

Wang Gongchen 王拱辰

Wang Lansheng 王蘭生

Wang Mang 王莽

Wang Meng Ou 王夢鷗

Wang Pu 王朴

Wang Shuangchi 汪雙池

Wang Tingxiang 王廷相

Wang Xiaochen 王曉臣

Wang Xuan 汪烜

Wang Yangming 王陽明

Wang Zhu 王誅

Wannian huan 萬年歡

wéi 爲

Wei 魏, 衛

wěi 鷺

Wei Hanjin 魏漢津

Wei Wenhou 魏文侯

Wei Yuan 魏源

Weishu 魏書

Wendi 文帝

Wenwang 文王

wenwu 文舞

Wenzong 文宗

Wu 吳

Wu Chongyao 伍崇曜

Wu Empress 武后

Wu Qiao 吳喬

Wu Yubi 吳與弼

Wudi 武帝

Wujing zhengyi 五經正義

wuqi 五氣

wuqing 五情

wuse 五色

wushi 五事

wushi 五時

wutu 五土

Wuwang 武王

wuwei 五位

wuwu 武舞

wuxing 五行

wuyi 無射

Wuzong 武宗

Xia 夏

xia dafu 下大夫

xiagu 下瞽

xiaguan 夏官

Xianchi 咸池

Xiang yinjiu li 鄉飲酒禮

Xiangyan ju cichen 香研居詞麈

Xiangzi 襄子

xianwang zhiyue 先王之樂

Xianzong 憲宗

xiao 簫

xiaobian 小變

Xiaojing 孝經

xiaolu 小呂

Xiaoming Emperor 孝明帝

xiaoshi 小師

Xiaowen Emperor 孝文帝

Xiaowu Emperor 孝武帝

xiaoxu 小胥

xiaoxue 小雪

Xiaoya 小雅

Xiaozhuang Emperor 孝莊帝

Xiaozong 孝宗

xiashi 下士

xin 心

Xin Dufang 信都芳

Xin Yanzhi 辛彥之

Xin yayue 新雅樂

xing 形

xing 荇

xingjin 形晉

Xingli daquan 性理大全

Xingli jingyi 性理精義

Xingyue yaolun 興樂要論

Xinxu 新序

Xiong Ansheng 熊安生

Xiong Penglai 熊朋來

Xiongnu 匈奴

Xiqin 西秦

Xiyuan wenjian lu 西園聞見錄

xù 序

xū 胥

Xu Ke 徐珂

Xu lulu xinshu 續律呂新書

Xu Shen 許慎

Xuande 宣德

Xuantong 宣統

Xuanwu Emperor 宣武帝

Xuánzong 玄宗

Xuānzong 宣宗

Xubian 續編

Xue Xuan 薛宣

xuetang yuege 學堂樂歌

xun 堧

Xun Fan 荀藩

Xun Xu 荀勗

Xunzi 荀子

yá 牙

yǎ 雅

yan 鰻

Yan Zhitui 顏之推

yang 陽

Yang Fu 楊復

Yang Jie 楊傑

Yang Jisheng 楊繼盛

Yang Xiong 揚雄

Yangdi 煬帝

Yangzi 揚子江

yanli 燕禮

Yao 堯

yasong zhisheng 雅頌之聲

yayue 雅樂

yi 義

yi 藝

Yijing 易經

Yili 儀禮

Yili zhengyi 儀禮正義

yīn 輦

yīn 音

ying 應

Ying Weiqian 應撝謙

yinggu 應鼓

yingpi 應鼙

yingsheng 應聲

yingzhong 應鐘

yinyang 陰陽

yize 夷則

yong 鏞

Yong Jia 永嘉

Yonghe 永和

Yongle 永樂

Yougeng 由庚

Youyi 由儀

yǔ 羽

Yǔ 禹

yú 竽

yū 紆

yǔ 敵

yú 楸

Yu Emperor 越王

yu qing 羽清

shang qing 商清

Yuan Fu 元孚

Yuan Kang 元匡

Yuan Xian 阮咸

Yuan Yi 阮逸

Yuan Zhen 元稹

Yuanhe 元和

Yuanluo zhiyue 苑洛志樂

yuanqi 元氣

yuansheng 元聲

yuè 樂

yuè 躍

yuè 簫

yuefu 樂府

Yuefu zalu 樂府雜錄

Yueji 樂記

Yueji bushuo 樂記補說

Yuejing 樂經

Yuejing guwen 樂經古文

Yuejing lulu tongjie 樂經律呂通解

Yuejing yuanyi 樂經元義

Yueling 月令

Yuelu biaowei 樂律表微

yuèshi 樂師

yuèshi 箏師

Yueshu yaolu 樂書要錄

Yueshu zhutufa 樂書註圖法

Yuewei dongshengyi 樂緯動聲儀

Yuewei qiyaojia 樂緯稽耀嘉

Yuewei yetuzheng 樂緯葉圖徵

Yuexuan kao 樂縣考

Yuexue xinshuo 樂學新說

Yueyuan yue 樂元語

yuezhang 箏章

Yuli 魚麗

Yunhe 雲和

Yunmen 雲門

Yunmen dajuan 雲門大卷

yuwu 羽物

zao 藻

Zeng Guofan 曾國藩

zhang 張

Zhang Cang 張蒼

Zhang Cunren 張存仁

Zhang E 張鷟

Zhang Mi 張宓

Zhang Wenshou 張文收

Zhang Xuan 張萱

Zhang Yu 張啟

Zhang Zai 張載
Zhang Zhan 張湛
Zhangdi 章帝
Zhao, Duke of 召公
Zhao Erxun 趙爾巽
Zhao Shenyan 趙慎言
Zhao Yansu 趙彥肅
Zhao Zijing 趙子敬
zheng 箏
Zheng 鄭
Zheng He 鄭和
Zheng Xuan 鄭玄
Zheng Yi 鄭譯
zhenggong 正宮
zhengqi 正氣
zhengsheng 正聲
Zhengtong 正統
Zhenzong 眞宗
Zhezong 哲宗
zhi 之
zhǐ 止
zhi 智
zhǐ 徵
zhishi zhiyin 治世之音
zhixing heyi 知行合一
zhong dafu 中大夫
zhonggu 中醫
Zhonglu tongkao 鐘律通考

zhongqi 中氣

zhongsheng 中聲

zhongshi 中士

zhongshi 鐘師

Zhongyong 中庸

Zhōu 周

Zhòu 紂

Zhou Dunyi 周敦頤

Zhou Hongmo 周洪謨

Zhouguan 周官

Zhouli 周禮

Zhouli zhengyao 周禮政要

Zhouli zhengyi 周禮正義

Zhounan 周南

Zhousong 周頌

zhu 祝

Zhu Houwan 朱厚烷

Zhu Sheng 朱升

Zhu Xi 朱熹

Zhu Yuanzhang 朱元璋

Zhu Zaiyu 朱載堉

Zhuangzi 莊子

zhuo 啄

Zhuzi quanshu 朱子全書

Zi 齊

Zi Xia 子夏

zisheng 子聲

Zouyu 騶虞

Zu Xiaosun 祖孝孫

Zu Ying 祖瑩

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Zhuzi quanshu 朱子全書

See Zhu Xi.

Appendix 1

Rank	Officials Under Command	Duties
Grand Director of Music (dasiyue)	Masters of middle rank (zhong dafu) - 2	In charge of the music of the Zhou State, including the management of music education and ceremonial music.
Music Master (yueshi)	Music masters of lower rank (xia dafu) - 4 Scholars of upper rank (shangshi) - 8 Scholars of lower rank (xiashi) - 16 Prefects (fu) - 4 Chroniclers (shi) - 8 Clerks (xu) - 8 Disciples (tu) - 80	Work closely with Grand Director of Music in the areas of music education and ceremonial music.
Grand Assistant (daxu)	Scholars of middle rank (zhongshi) - 4	Keep the register of students of dance and music; display musical instruments and signal the beginning of a ceremony.
Sub Assistant (xiaoxu)	Scholars of lower rank - 8 Prefects - 2 Chroniclers - 4 Disciples - 40	In charge of the discipline of students of dance and music; ensure bells and sonorous stones are in order to regulate the status of the Emperor, dukes, masters and scholars.
Great Master (dashi)	Masters of lower rank - 2	In charge of standard measurements for pitches and blind musicians; teach the six styles of poetry; play sonorous stones in order to lead blind musicians in ceremonies; forecast outcome of war by monitoring military music.

Junior Master (xiaoshi)	Scholars of upper rank - 4	Teach blind musicians to play the <u>gu</u> (drum), <u>tao</u> (drum with beaters), <u>zhu</u> (wooden box), <u>yu</u> (wooden tiger), <u>xun</u> (ocarina), <u>xiao</u> (vertical flute), <u>guan</u> (double-reed instrument), string instruments and singing; play sonorous stones at the upper hall and the <u>yinggu</u> (small drum) at the lower terrace in order to lead musicians in less important ceremonies, play the <u>yin</u> (small drum); regulate the rhythm of the six ancient pieces.
Master of Blind Musicians (gumeng)	Blind musicians of upper rank (shanggu) - 40 Blind musicians of middle rank (zhonggu) - 100 Blind musicians of lower rank (xiagu) - 160	Perform the <u>tao</u> , <u>zhu</u> , <u>yu</u> , <u>xun</u> , <u>xiao</u> , <u>guan</u> , string instruments and sing; recite poetry to the Emperor; sing the six ancient songs and songs of the nine virtues at the command of the Great Master.
Music Master With Normal Eyesight (shiliao)	Musicians with normal eyesight (shiliao) - 300 Prefects - 4 Chroniclers - 8 Clerks - 12 Disciples - 120	Assist the Great Master and blind musicians to set up instruments; perform the <u>tao</u> , <u>songqing</u> (sonorous stones at the west), <u>shengqing</u> (sonorous stones at the east), bells and drums.
Regulator of Pitches (diantong)	Scholars of middle rank - 2 Prefect - 1 Chronicler - 1 Clerks - 2 Disciples - 20	Regulate the six masculine and six feminine pitches to facilitate proper construction of instruments.

Master of Sonorous Stones (qingshi)	Scholars of middle rank - 4 Scholars of lower rank - 8 Prefects - 4 Chroniclers - 2 Clerks -4 Disciples -40	Teach sonorous stones and bells for performance in ceremonies and court functions; perform these instruments in mixed ensembles in sacrificial rites.
Master of Bells (zhongshi)	Scholars of middle rank - 4 Scholars of lower rank - 8 Prefects - 2 Chroniclers -2 Clerks - 6 Disciples - 60	Perform bells for the great nine <u>Xia</u> pieces and the appropriate pieces for ceremonies and court functions; play the <u>pi</u> drum in mixed ensembles.
Master of Sheng (shengshi)	Scholars of middle rank - 2 Scholars of lower rank - 4 Prefects - 2 Chroniclers - 2 Clerk -1 Disciples - 10	Teach wind instruments including the <u>yú</u> (36-pipe mouth organ), <u>sheng</u> (13-pipe mouth organ), <u>xun</u> , <u>yuè</u> (three-hole flute), <u>xiao</u> , <u>chí</u> (horizontal flute), <u>dí</u> (horizontal flute), <u>guan</u> , <u>chongdu</u> (7-foot flute), <u>ying</u> (6.5-foot flute), and <u>ya</u> (5.6-foot flute); teach music for the exit of guests; perform the <u>sheng</u> and keep instruments.
Master of Bo (boshi)	Scholars of middle rank - 2 Scholars of lower rank - 4 Prefects - 2 Chroniclers -2 Clerks -2 Disciples - 20	Play <u>jingu</u> (big drum) and military drum; keep instruments.
Master of Music of Eastern Barbarians (meishi)	Scholars of lower rank - 2 Prefect - 1 Chronicler - 1 Dancers - 16 Disciples - 40	Teach the music of the Eastern barbarians; lead dancers in sacrificial and dining ceremonies.

Standard Bearer of the Ox-tail (maoren)	Scholars of lower rank - 4 Dancers - no fixed number Prefects - 2 Chroniclers - 2 Clerks - 2 Disciples - 20	Teach dancing and foreign music; select foreign dancers; performance of dances.
Master of Three-hole Flute (yueshi)	Scholars of middle rank - 4 Prefects - 2 Chroniclers - 2 Clerks - 2 Disciples - 20	Teach and perform civil dance; keep instruments.
Flute Player (yuezhang)	Scholars of middle rank - 2 Scholars of lower rank - 4 Prefect - 1 Chronicler - 1 Clerks - 2 Disciples - 20	Play the <u>tugu</u> (clay drum) and <u>yue</u> .
Master of Foreign Music (dilushi)	Scholars of lower rank - 4 Prefect - 1 Chronicler - 1 Clerks - 2 Disciples - 20	In charge of four types of foreign music; play wind instruments.
Keeper of Instruments (dianyongqi)	Scholars of lower rank - 4 Prefects - 4 Chroniclers - 2 Clerks - 8 Disciples - 80	Keep instruments, including bells with inscriptions of honour.
Keeper of Shields (sigan)	Scholars of lower rank - 2 Prefects - 2 Chroniclers - 2 Disciples - 20	Keep paraphernalia for dances.

(Zhouli 17.8b-13a; 20.1a-24.12a)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.1a-1b

Luming (In gong mode of higher huangzhong)

(huangzhong = C)



呦呦鹿鳴 食野之苹 我有嘉賓
鼓瑟吹笙 吹笙鼓簧 承筐是將
人之好我 示我周行 呦呦鹿鳴
食野之蒿 我有嘉賓 德音孔昭
視民不忮 君子是則是飭 我有旨酒
嘉賓式燕以敖 呦呦鹿鳴 食野之苓
我有嘉賓 鼓瑟鼓琴 鼓瑟鼓琴
和樂且湛 我有旨酒 以燕樂嘉賓之心

Luming

Translations

1. You-you cry the deer, they eat the Artemisia of the open grounds; I have a fine guest, we play the 25-string lute (se) and blow the reed-organ (sheng); we blow the reed-organ and vibrate its tongues; the baskets presented, them we take; the man who loves me, he shows me the manners of Zhou.
2. You-you cry the deer, they eat the southern wood of the open grounds; I have a fine guest, his reputation is very brilliant; he does not regard people in a mean way; the noblemen take him for a pattern, they imitate him; I have good wine, my fine guest feasts and amuses himself.
3. You-you cry the deer, they eat the qin plants of the open grounds; I have a fine guest, we play the 25-string lute, we play the seven-string lute (qin); we play the lutes, together we rejoice and are steeped in pleasure; I have good wine, with it I feast and rejoice the heart of my fine guest.

(Karlgren 1944: 221-22)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.1b-2a

Simu (In gong mode of higher huangzhong)

(huangzhong = C)

四牡駉駉周道倬遲 豈不懷歸王事靡盬
我心傷悲 四牡駉駉嘽嘽駉馬 豈不懷歸
王事靡盬不遑啟處 翩翩者騅載飛載下
集于苞栩 王事靡盬不遑將父 翩翩者騅
載飛載止 集于苞杞 王事靡盬不遑將母
駕彼四駉載騅騅騅 豈不懷歸是用作歌
將母來詵

Simu

Translations

1. The four stallions run increasingly; the road of Zhou is winding and long; do I not long to go home? But the service to the king must not be defective; my heart is pained and grieved.
2. The four stallions run increasingly; exhausted are the black-manned white horses; do I not long to go home? But the service to the king must not be defective; I have no leisure to kneel or sit down.
3. Flying are the ju birds, now they fly, now they sink down, they settle on the bushy oak; the service to the king must not be defective. I have no leisure to support my father.
4. Flying are the ju birds, now they fly, now they stop, they settle on the bushy qi willow: the service to the king must not be defective, I have no leisure to support my mother.
5. I yoke those black-manned white horses, they rush swiftly; do I not long to go home? Therefore I make this song; about supporting my mother I come and report.

(Karlgren 1944: 222)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.2a

Huanghuang zhe hua (In gong mode of higher huangzhong)

(huangzhong = C)



皇皇者華 于彼原隰 駉駉征夫 每懷靡及
我馬維駒 六轡如濡 載馳載驅 周爰咨諏
我馬維駒 六轡如絲 載馳載驅 周爰咨謀
我馬維駒 六轡沃若 載馳載驅 周爰咨度
我馬維駒 六轡既均 載馳載驅 周爰咨詢

Huanghuang zhe hua

Translations

1. Brilliant are the flowers, on that plain and that swamp; numerous are the runners, each of them afraid of lagging behind.
2. My horses are colts; the six reins are as if moistened; I gallop my horses, I drive them on; everywhere I make inquiries.
3. My horses are black-mottled greys; the six reins are as if of silk; I gallop my horses, I drive them on; everywhere I make inquiries and take counsel.
4. My horses are black-maned whites; the six reins are as if moist; I gallop my horses, I drive them on; everywhere I make inquiries and deliberate.
5. My horses are such with grey-and-white mixed hair; the six reins are well-balanced; I gallop my horses, I drive them on; everywhere I make inquiries and plan.

(Karlgren 1944: 222)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.2b

Yuli (In gong mode of higher huangzhong)

(huangzhong = C)



Yuli

Translations

1. The fishes fasten in the trap, they are chang fish and sand fish; the lord has wine, it is good and plentiful.
2. The fishes fasten in the trap, they are bream and li fish; the lord has wine, it is plentiful and good.
3. The fishes fasten in the trap, they are yan fish and carp; the lord has wine, it is good and in quantities.
4. The things are plentiful, and yet they are good.
5. The things are good and yet they are plentiful.
6. The things are in quantities, and yet they are good.

(Karlgren 1944: 226)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.2b-3a

Nanyou jiayu (In gong mode of higher huangzhong)

(huangzhong = C)



南有嘉魚烝然罩罩君子有酒嘉賓式燕以樂
南有嘉魚烝然汕汕君子有酒嘉賓式燕以行
南有樛木甘瓠累之君子有酒嘉賓式燕綏之
翩翩者鵲烝然來思君子有酒嘉賓式燕又思

Nanyou jiayu

Translations

1. In the South there are fine fishes, in great numbers they are taken under baskets; the lord has wine, fine guests feast and rejoice.
2. In the South there are fine fishes, in great numbers they are taken in wicker traps; the lord has wine, fine guests feast and are delighted.
3. In the South there are trees with down-curving branches, the sweet gourds cling to them; the lord has wine, fine guests feast and comfort him.
4. Flying are the ju birds, in great numbers they come; the lord has wine, fine guests feast and second him.

(Karlgren 1944: 226)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.3a-3b

Nanshan youtai (In gong mode of higher huangzhong)

(huangzhong = C)

南山有臺北山有萊樂只君子

邦家之基樂只君子萬壽無期

南山有桑北山有楊樂只君子

邦家之光樂只君子萬壽無疆

南山有杞北山有李樂只君子

民之父母樂只君子德音不已

南山有栲北山有杻樂只君子遐不作眉壽

樂只君子德音是茂南山有栲北山有楸

樂只君子遐不作眉壽樂只君子保艾爾後

Nanshan youtai

Translations

1. On the Southern mountain there are tai plants, on the Northern mountain there are lai plants; happy be the lord, he is the foundation of the state; happy be the lord, a longevity of a myriad years without end!
2. On the Southern mountain there are mulberry trees, on the Northern mountain there are poplars; happy be the lord, he is the light of the state; happy be the lord, a longevity of a myriad years without limit!
3. On the Southern mountain there are qi willows, on the Northern mountain there are plum trees; happy be the lord, he is the father and mother of the people; happy be the lord, may his reputation never end.
4. On the Southern mountain there are kaq trees, on the Northern mountain there are niu trees; happy be the lord, how should he not have a vigorous old age? Happy be the lord, may his reputation be flourishing.
5. On the Southern mountain there are ju trees, on the Northern mountain there are yú trees; happy be the lord, how should he not have a high old age? Happy be the lord, may you preserve and govern well your descendants!

(Karlgren 1944: 226)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.3b-4a

Guanju (In higher shang mode of wuyi)

(huangzhong = C)

關關雎鳩在河之洲窈窕淑女君子好逑

參差荇菜左右流之窈窕淑女寤寐求之

求之不得寤寐思服悠哉悠哉輾轉反側

參差荇菜左右采之窈窕淑女琴瑟友之

參差荇菜左右芼之窈窕淑女鐘鼓樂之

Guanju

Translations

1. Guan-guan cries the juiju bird, on the islet of the river; the beautiful and good girl, she is a good mate for the lord.
2. Of varying length is the xing water plant, to the left and the right we catch it; the beautiful and good girl, waking and sleeping he wished for her; he wished for her but did not get her, waking and sleeping he thought of her; longing, longing, he tossed and fidgeted.
3. Of varying length is the xing water plant, to the left and the right we gather it; the beautiful and good girl, the seven-string lute (qin) and 25-string lute (se) hail her as a friend.
4. Of varying length is the xing water plant, to the left and the right we cull it as a vegetable; the beautiful and good girl, bells and drums cheer her.

(Karlgren 1944: 173)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.4a

Getan (In higher shang mode of wuyi)

(huangzhong = C)

葛之覃兮施于中谷維葉萋萋
 黃鳥于飛集于灌木其鳴喈喈
 葛之覃兮施于中谷維葉莫莫
 是刈是穫為絺為絺服之無斁
 言告師氏言告言歸薄污我私
 薄澣我衣害澣害否歸寧父母

Getan

Translations

1. How the ge creeper spreads, it reaches to the middle of the valley; its leaves are luxuriant; the yellow birds go flying, they settle on the thickly-growing trees; they sing in harmony.
2. How the ge creeper spreads, it reaches to the middle of the valley; its leaves are rich; I cut it, I boil it, I make fine cloth and coarse cloth; I shall wear them without growing weary of them.
3. I tell the matron, I tell her that I am returning home; I will soak my private clothes, I will wash my garments; which shall I wash, which not? I return to wish peace to father and mother.

(Karlgren 1944: 173)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.4b

Juan'er (In higher shang mode of wuyi)

(huangzhong = C)

采采卷耳子盈頃筐嗟我懷人寔彼周行
陟彼崔嵬我馬虺隤我姑酌彼金罍維以不永懷
陟彼高岡我馬玄黃我姑酌彼兕觥維以不永傷
陟彼頽矣我馬瘠矣我僕痡矣云何吁矣

Juan'er

Translations

1. I gather the juan'er plant, but it does not fill my slanting basket; I am sighing for my beloved one; I place it here on the road of Zhou.
2. I ascend that craggy height, my horses are all exhausted; meanwhile, I pour out a cup from that bronze lei-vase, in order not to yearn all the time.
3. I ascend that high ridge, my horses become black and yellow; meanwhile I pour out a cup from that gong-vase of rhinoceros horn, in order not to be pained all the time.
4. I ascend that earth-covered cliff; my horses are sick; my driver is ill; oh, how grieved I am!

(Karlgren 1944: 173)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.4b-5a

Quechao (In higher shang mode of wuyi)

(huangzhong = C)



維鵲有巢維鳩居之之子于歸百兩御之

維鵲有巢維鳩方之之子于歸百兩將之

維鵲有巢維鳩盈之之子于歸百兩成之

Quechao

Translations

1. It is the magpie who has the nest, it is the jiu bird who inhabits it; this young lady goes to her new home, a hundred carriages meet her.
2. It is the magpie who has the nest, it is the jiu bird who has her place in it; this young lady goes to her new home, a hundred carriages escort her.
3. It is the magpie who has the nest, it is the jiu bird who fills it; this young lady goes to her new home, a hundred carriages make her outfit complete.

(Karlgren 1944: 175)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.5a

Caifan (In higher shang mode of wuyi)

(huangzhong = C)



Caifan

Translations

1. She goes to gather the fan plants, by the ponds, on the islets; she goes to use them as an offering, in the sacrifices of the prince.
2. She goes to gather the fan plants, in the stream-valley; she goes to use them as an offering, in the temple of the prince.
3. How ample is her head-dress --- morning and evening she is in the palace; how large is her head-dress --- and now she returns home.

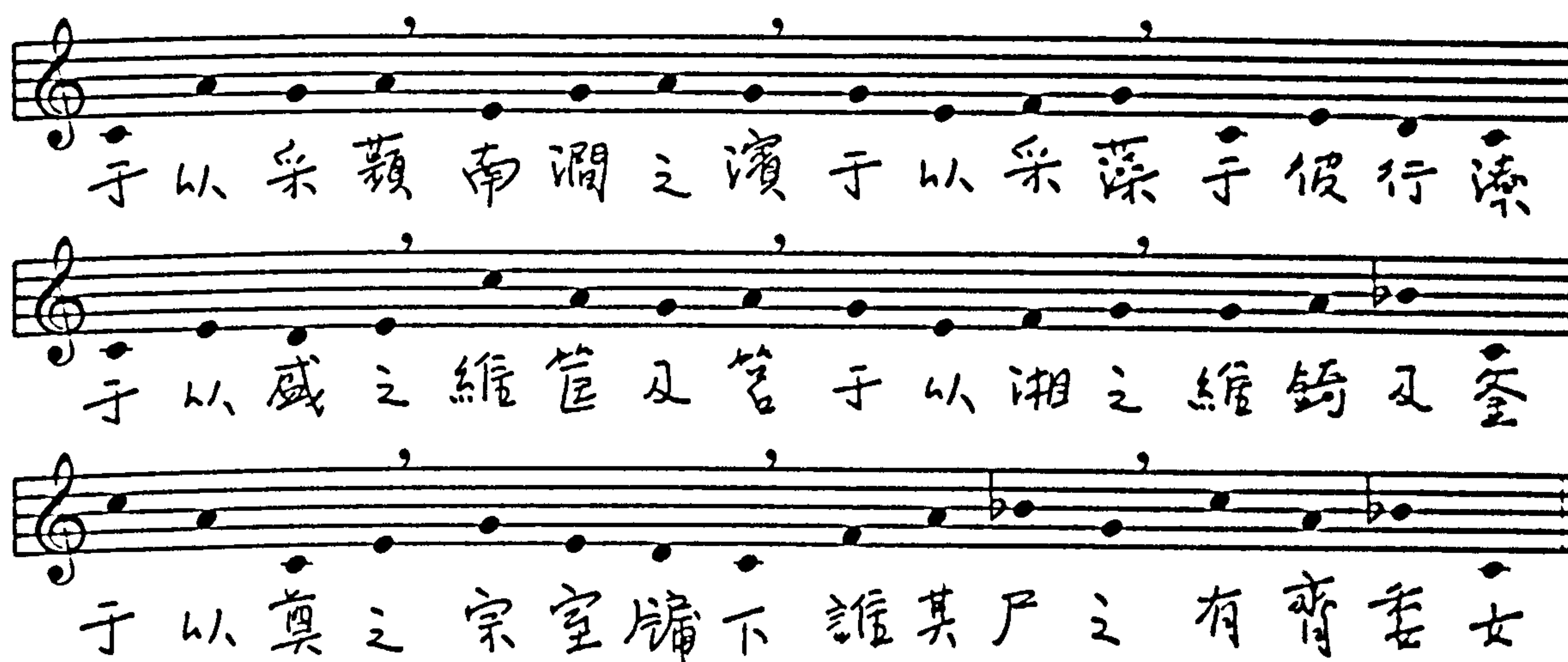
(Karlgren 1944: 175-76)

Appendix 2

Zhu Xi: Yili jingzhuan tongjie 14.5a-5b

Caipin (In higher shang mode of wuyi)

(huangzhong = C)



子以采蘋南澗之濱子以采藻于彼行潦
子以威之維筐及筥子以湘之維錡及釜
子以奠之宗室牖下誰其尸之有齊季女

Caipin

Translations

1. She goes to gather the pin water plants,, on the bank in the southern stream-valley; she goes to gather the zao water plants, in those running pools.
2. She goes to put them in vessels, there are baskets square and round; she goes to boil them, there are cauldrons and pans.
3. She goes to deposit them, under the window in the ancestral shrine; who sets them forth? There is a reverent young girl.

(Karlgren 1944: 176)

Appendix 3

Li Wenchang: Huangming qingong yuediao 1.18a-20a

(Yu of huangzhong; huangzhong = C)



既崇以禮 既學以德 祈于萬年 樂受景福

既學以德 百官既裴 祈于妙年 迺志時鹽

時鹽昭融 鼓舞笙錦 笙錦在道

古訓攸崇 古訓維何 孝友成身 仁義培根

培則日生 日生維何 一人元良

元良膺民 萬邦亦新 萬邦亦新 孫子是則

神人是翼 和氣滿域 和氣發祥

天地為彰 和氣作僎 士女降釐 無忝厥生

無忝厥性 無忝于賢 無忝于聖



Translations

1. Propriety is honoured, and virtue is being taught. One prays that prosperity will prevail for ten thousand years.
2. Once virtue is being taught, ministers will be better prepared to serve the country. One prays in this prosperous year, that they will do their best for their country.
3. Prosperity will create harmony amongst the people. When the sheng and yong are played, the teaching of the ancient sages will be respected.
4. Such kind of teaching helps maintain piety and friendship. It is also the root of love and righteousness, which should grow daily.
5. Love and righteousness are particularly important to the Emperor, who can apply these qualities to rule his people. In the end, this will lead to a more enlightened state.
6. The state will then have a new look, because the younger generation obey the laws, while people and spirits live in harmony.
7. If this sense of harmony is extended to heaven and earth, it will lead to happiness, and women will give birth to children.
8. As a result, there will be no shortage of living beings and good character, and no contradiction to virtue and the ideals of the ancient sages.
9. Emperors Yao and Shun were the two most outstanding ancient sages, because they had a habit to wake up as soon as the cockerels began to cry.
10. Their acts have the connotation that things begin in the east. When the guests are in the great hall, they pay their respect to the Emperor.

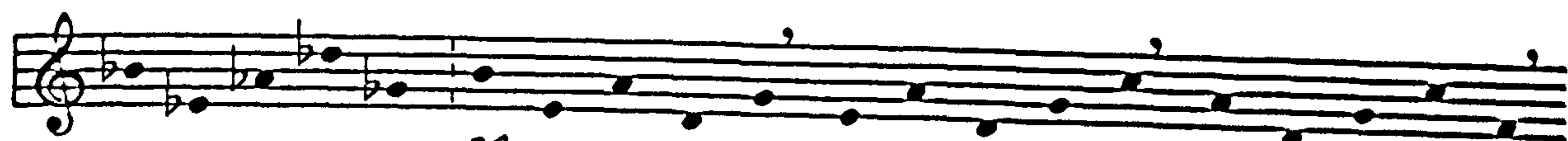
Appendix 3

Li Wenchang: Huangming qingong yuediao 1.20a-20b

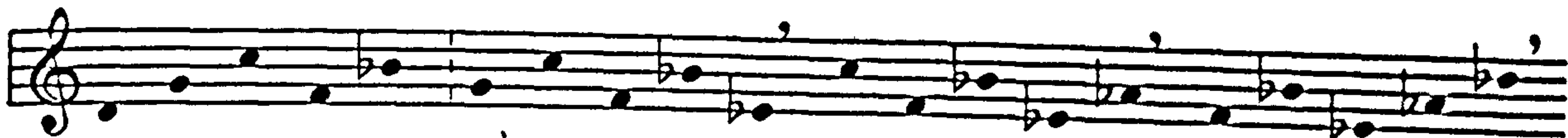
(Jue of yingzhong; huangzhong = C)



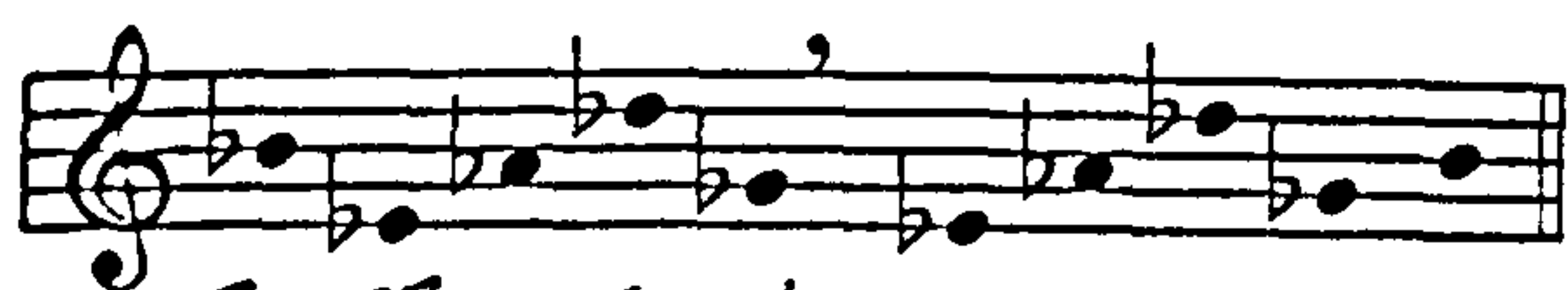
聖祖飛淮甸 訓謨貽孫賢 大興當有待
 簫韶奏堯天 禮敘定坤乾 律和法玕璇 聲容付鑾職
 溫直歸胄全 中興樂道先 律呂帶經筵
 道志興雅頌 德成有宮縣 鏗鏘鐘立武 磬磬石為辨
 絲竹廉有容 八音包萬象 聲容益耳目
 舞蹈舒血脉 可以和平性 情也能清神 魂宮商動脾肺
 角徵通肝心 上善稱于永 羽翳相資深
 智羽仁角應 宮聲和正聖 相傳有虞唐 廊廟聲歌廣
 黃鐘一陽生 受氣數未增 意味真渾淡 平心人成能



羽正兆年壘角端威民通微韶君臣悅



元首股肱風稽古有元皇載竹宣八風同聲思相應



源頭在執中

Translations

1. Emperor Shengzu flies to the countryside of the River Huai to leave an edifying message to his descendants. Great prosperity is in sight, as the piece Shao is performed for the Emperor Yao.
2. Rites determine the positions of the hexagrams, while pitches harmonize the positions of the stars. It is Kui's duty to look after music, and to educate the future generations.
3. Prosperity is anticipated by an established musical system, while the fixing of pitches is an essential step towards this goal. Ya and Song poems are tools to express feelings, and the correct positioning of musical instruments is a sign of virtue.
4. The sound of bells creates a martial atmosphere, while that of sounding stones is easily recognizable, and that of silk and bamboo instruments graceful. The eight sources of sound embrace everything.
5. Music enriches the ears and eyes, while dance makes the blood flow fluently. They can develop human character and refresh human minds.
6. The degrees gong and shang activate the spleen and lungs, while jue and zhi connect the liver to the heart. Virtuous sound is in harmony with the singers. Yu is closely related to the kidneys.
7. The wise degree yu and virtuous jue respond to one another, while gong is in harmony with virtue. There is a legendary Emperor called Yu, who is being worshipped at the temples.
8. Huangzhong is generated by the positive, and its number has not increased in spite of the effect of inherent force. Such bland taste can be cultivated through a quiet heart.
9. When the degree yu is in order, the year will be prosperous. When jue is correct, it will guide the people in the right way. When zhi is in order, the Emperor and ministers will be joyous. The Emperor will have the necessary assistance to rule the country.
10. There was an ancient Emperor, who cut bamboo to pronounce the eight sources of sound. His mind was influenced by the sound, and the essence of music was firmly established in his heart.

Appendix 3

Li Wenchang: Huangming qinggong yuediao 2.8a-8b

(Gong of huangzhong; huangzhong = C)

皇祖創鴻艱守成列聖難
中興禮樂敬守萬年安
萬年功業垂賢子賢孫培
勉勉帝王學培培頂山鬼
帝王學法天天理備宮縣
天子天所眷本支百世綿

Translations

1. The first Emperor of Ming had overcome all difficulties to establish his empire. It is very difficult to rank oneself amongst the ancient sages. Rites and music are important factors to maintain prosperity of the country, and if they are practised correctly, there will be peace for ten thousand years.
2. In the ten thousand years of ruling the country, many young generations would have acquired virtue. They work hard to achieve as much as their ancient Emperors, and do the best for their country.
3. The Emperor learns what is provided by heaven, which is depicted by the arrangement of music instruments provided for him. Heaven's love to him is extended to a hundred generations.

Appendix 4

Liu Lian: Yuejing yuanyi 5.14a-14b

Luming (Based on taicou; huangzhong = C)



呦呦鹿鳴食野之萍我有嘉賓鼓瑟吹笙
吹笙鼓簧承筐是將人之好我示我周行
呦呦鹿鳴食野之蒿我有嘉賓德音孔昭
視民不忮君子視則是傲我有旨酒嘉賓式燕以敖
呦呦鹿鳴食野之芩我有嘉賓鼓瑟鼓琴
鼓瑟鼓琴和樂且湛我有旨酒以燕樂嘉賓之心

Appendix 4

Liu Lian: Yuejing yuanyi 5.13a-14a

Yuli (Based on huangzhong; huangzhong = C)

魚麗于罍 鱉 君子有酒 旨且多

魚麗于罍 鮐 魚 君子有酒 多且旨

魚麗于罍 鯉 魚 君子有酒 旨且有

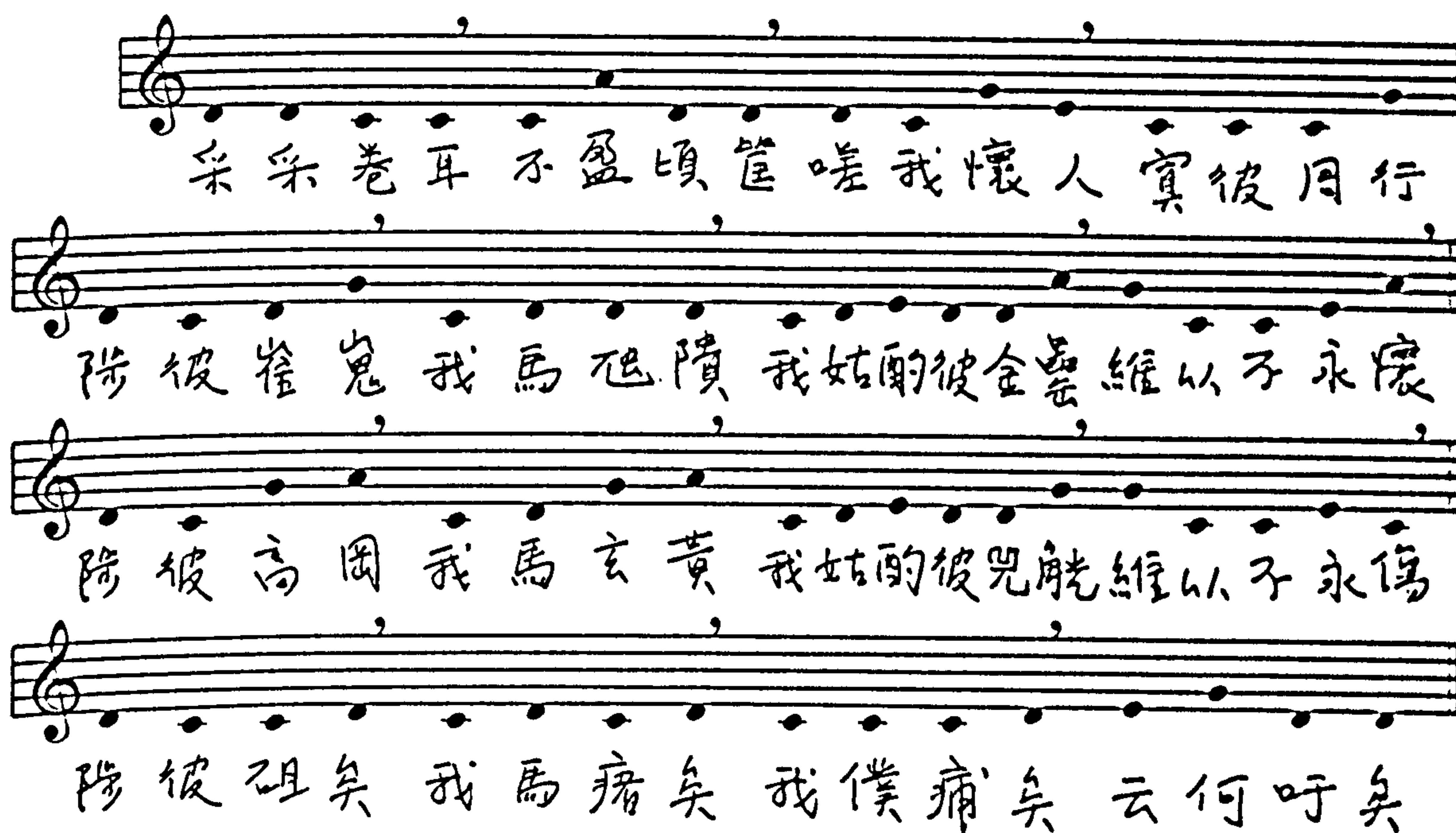
物其多矣 維其嘉矣 物其旨矣

維其偕矣 物其有矣 維其時矣

Appendix 4

Liu Lian: Yuejing yuanyi 4.15a-15b

Juan'er (Based on taicou; huangzhong = C)



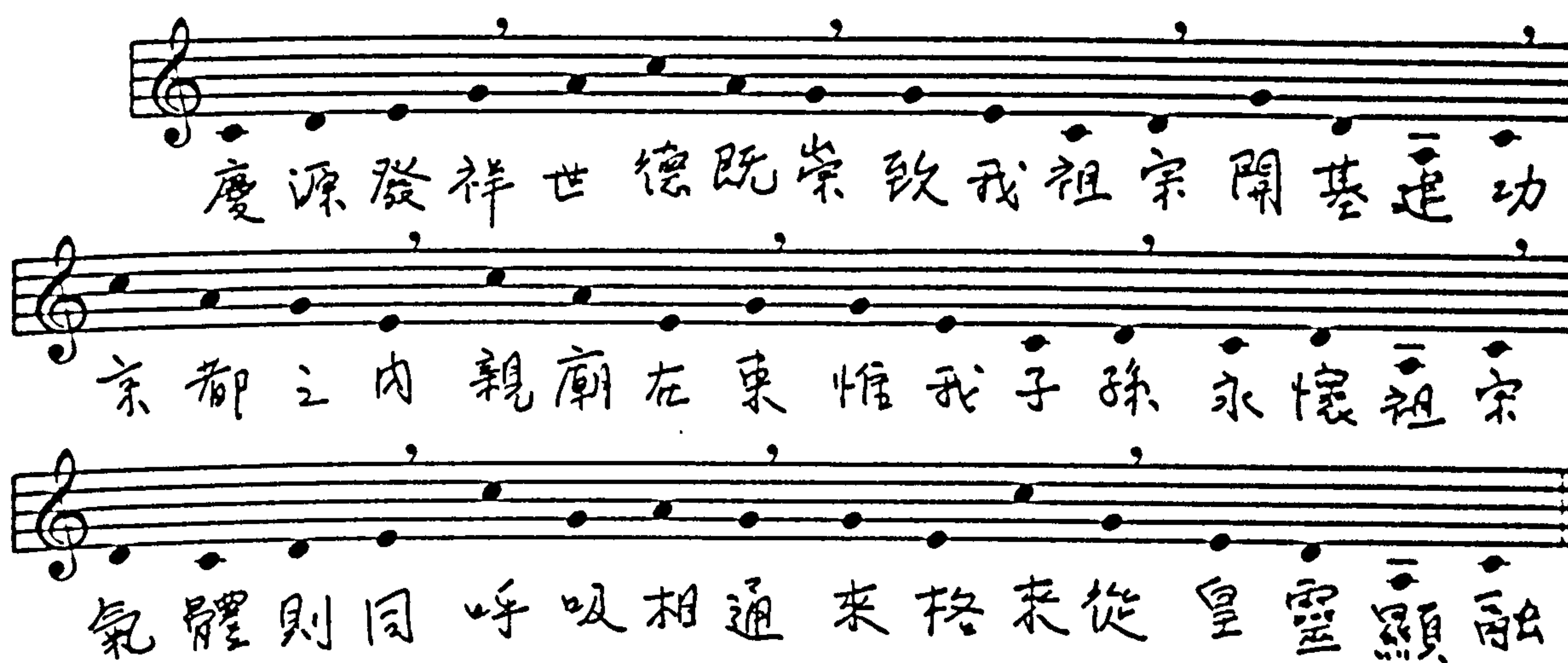
采采卷耳不盈頃筐嗟我懷人寔彼月行
陟彼崔嵬我馬虺隤我姑酌彼金罍維以不永懷
陟彼高岡我馬玄黃我姑酌彼兕觥維以不永傷
陟彼砠矣我馬瘠矣我僕痛矣云何吁矣

Appendix 5

Zhu Zaiyu: Yuexue xinshuo 5b.36-37

Leng Qian's Old Piece

(Huangzhong is gong; huangzhong = C)



Zhu Zaiyu: Yuexue xinshuo 5b.37

Written in the Style of Leng Qian's Old Piece

(Dalu is jue; huangzhong = C)



Appendix 5

Zhu Zaiyu: Yuexue xinshuo 5b.37-38

Written in the Style of Leng Qian's Old Piece

(Taicou is zhi; huangzhong = C)



Zhu Zaiyu: Yuexue xinshuo 5b.38

Written in the Style of Leng Qian's Old Piece

(Yingzhong is yu; huangzhong = C)



Appendix 5

Translations

Prosperity originates from a good beginning, which should be celebrated by everyone. It is important to pay tribute to the ancestors who had laid the foundation for the fruits of success. Within the capital city, the ancestral temple is built on the east. Let us hope our descendants will remember their ancestors forever. When this happens, the invisible force and the body will be in harmony, and there will be coordination between the action of inhaling and exhaling. Everything will also be in order, and the Emperor's magnanimity will be appreciated.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.4-5

Luming (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

呦呦鹿鳴食野之苹我有嘉賓鼓瑟吹笙
 吹笙鼓簧承筐是將人之好我示我周行
 呦呦鹿鳴食野之蒿我有嘉賓德音孔昭
 視民不忮君子是則是儆我有旨酒嘉賓式燕以敖
 呦呦鹿鳴食野之芩我有嘉賓鼓瑟鼓琴
 鼓瑟鼓琴和樂且湛我有旨酒以燕樂嘉賓之心

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.5-6

Simu (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

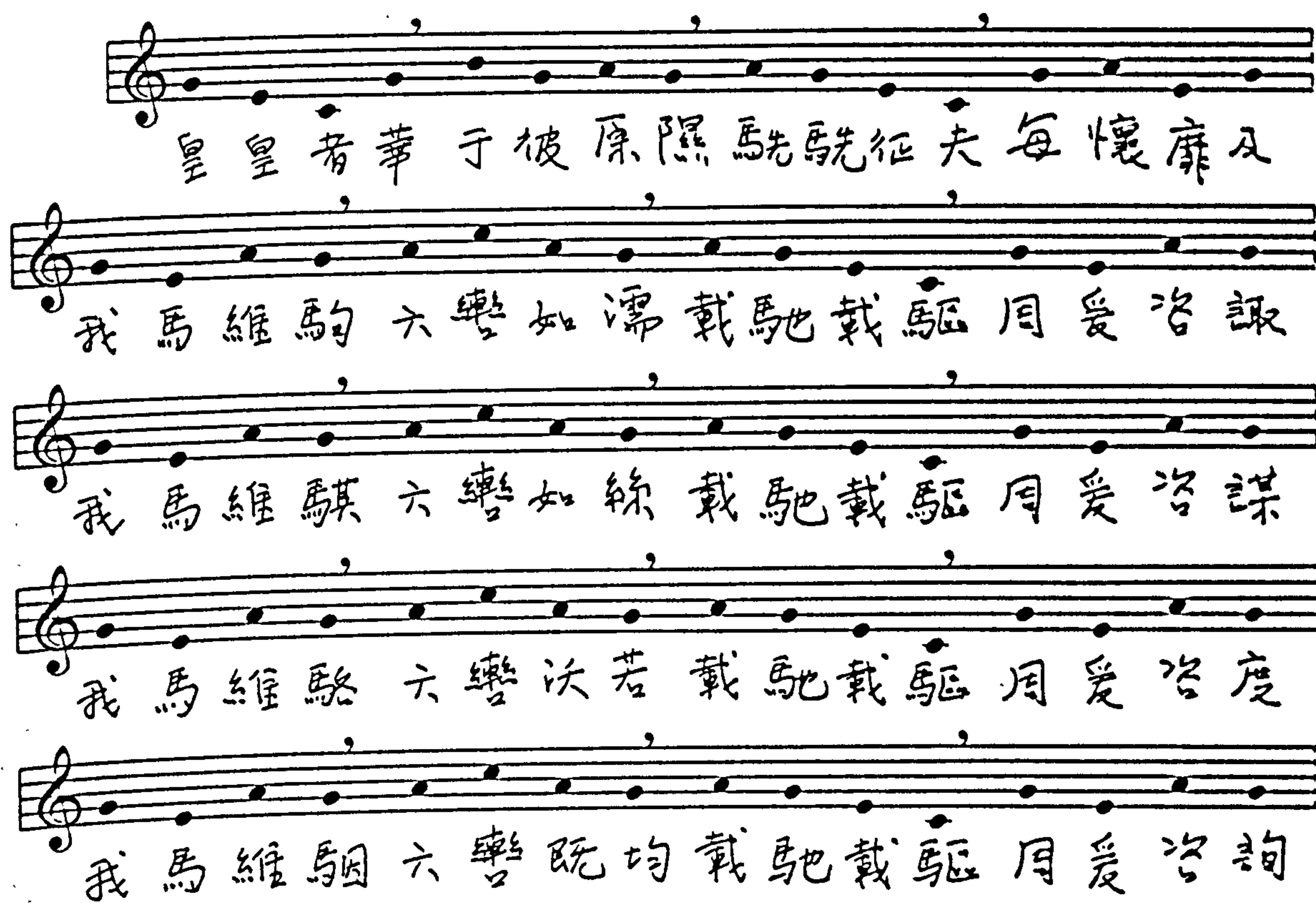
四牡駉駉周道倭遲 豈不懷歸王事靡盬
我心傷悲四牡駉駉嘒嘒駉馬 豈不懷歸
王事靡盬不遑啟處翩翩者騅載飛載下
集于苞栩王事靡盬不遑將父翩翩者騅
載飛載止集于苞杞王事靡盬不遑將母
駕彼四駉載驟駉駉豈不懷歸是用作歌
將母來詵

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.6-7

Huanghuang zhe hua (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)



皇皇者華 于彼原隰 駉駉征夫 每懷靡及

我馬維駒 六轡如濡 載馳載驅 周爰咨諏

我馬維駒 六轡如緜 載馳載驅 周爰咨謀

我馬維駒 六轡沃若 載馳載驅 周爰咨度

我馬維駒 六轡既均 載馳載驅 周爰咨詢

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.7-8

Nangai (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)



南陔有風吹彼苞棘厥杲婆娑欲靜未得

孝子事親當竭其力父母之恩昊天罔極

南陔有風吹彼桑梓慕我父母終身敬止

勗哉伯仲以及姊妹恪爾晨昏絜爾甘旨

景薄桑榆日亦云暮父母俱存兄弟無故

雖有至樂寧不深慮一則以喜一則以懼

Nangai

Translations

1. Wind is blowing at the southern hills by the fields, and disturbs the blossoms. They swing accordingly, and there is no way to remain still. The pious son should try his best to serve his parents, because what they have done to him is immeasurable.
2. Wind is blowing at the southern hills by the fields, and disturbs the mulberry plants. I respect my parents for the entire duration of my life, and this should also be extended to my uncles and aunts. This is observed everyday, from morning till evening.
3. When the mulberry plants look tired, the end of the day has drawn near. It is fortunate that both parents are still alive, and older and younger brothers are healthy. Even though there is joy, one should not be too complacent. One should be happy about it, but at the same time cannot stop worrying.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.9-10

Baihua (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

嗟彼白華瑩然如玉君子立身必慎其獨

無貽親辱嗟彼白華瑩然如琇君子立身

必謹所守無貽親咎嗟彼白華瑩然如霜

君子立身如玉如璋為親之光嗟彼白華

瑩然如雪君子立身清清絮絮庶無玷缺

嗟彼白華瑩然如冰君子立身戰戰兢兢

庶無怨憎

Baihua

Translations

1. Look at your white flowers, they are as shiny as jade. When a gentleman sets his own objectives in life, he has to make sure that he is totally independent, so that he will not allow the reputation of his relatives to be spoilt.
2. Look at your white flowers, they are as shiny as precious stone. When a gentleman sets his own objectives in life, he has to make sure that he behaves within the constraints of the moral rules, so that he will not draw unnecessary criticism from his relatives.
3. Look at your white flowers, they are as shiny as frost. When a gentleman sets his own objectives in life, he has to think of the perfect paraphernalia of ceremonies at court, so that his relatives will be honoured.
4. Look at your white flowers, they are as shiny as snow. When a gentleman sets his own objectives in life, he has to make sure that he is honest, so that there is no question of being corrupt.
5. Look at your white flowers, they are as shiny as ice. When a gentleman sets his own objectives in life, he has to be extremely cautious, so that he will not cause any discontent or hatred.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.10-11

Huashu (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

彼華者黍 彼實者稷 相彼秋成 時萬時億

彼華者黍 彼實者麥 時和歲豐 國彙念積

彼華者黍 彼實者菽 農夫之慶 邦家之福

彼華者黍 彼實者麻 君子愛民 子驕不奢

彼華者黍 彼實者禾 君子愛物 不濫不過

Translations

1. During harvest, flowers produce corn. This happens in autumn, when the number collected is sometimes as large as tens of thousands.
2. During harvest, flowers produce wheat. When the weather is favourable, plenty of wheat will be put into storage.
3. During harvest, flowers produce beans. When farmers celebrate their achievement, the state and individual families will enjoy their fortune.
4. During harvest, flowers produce jute. The gentleman should try to like the people he rules, and should avoid undue extravagance.
5. During harvest, flowers produce rice. The gentleman should be careful in spending, and should avoid unnecessary wastage.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.11-12

Yuli (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

魚麗于鰭 鱉 魚 君子有酒 旨且多

魚麗于鰭 鱉 鱉 君子有酒 多且旨

魚麗于鰭 鯉 鯉 君子有酒 旨且有

物其多矣 維其嘉矣 物其旨矣 維其僭矣

物其有矣 維其時矣

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.12-13

Yougeng (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

天運元亨萬物由庚 王道正直蕩蕩平平
寒暑以序雨暘以時 百穀用成庶績咸熙
草木蕃庶鳥獸咸若 仰觀鸞飛俯窺魚躍
習習景風甘雨其濛 醴泉洩洩玉燭融融

Translations

1. When heavenly fortune is good, myriad things are in order. If the Emperor rules his people with just, there will be no question of being unfair.
2. When the seasons and rainfall are well regulated, different kinds of grains will be produced, and the people will enjoy prosperity.
3. When different kinds of plants are growing well, the number of birds and animals will increase. When one looks up, he can see large birds. When one looks down, he can see fish swimming freely.
4. The rain makes the scenery look blurred. When ceremonies are proceeding, candles and joss-sticks burn properly.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.13-14

Nanyou jiayu (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)



南有嘉魚 烝然罩罩 君子有酒 嘉賓式燕以樂

南有嘉魚 烝然汕汕 君子有酒 嘉賓式燕以行

南有樛木 甘瓠累之 君子有酒 嘉賓式燕綏之

翩翩者鵲 烝然來思 君子有酒 嘉賓式燕又思

Zhu Zaiyu: Lulu jingyi waipian 7.14-15

Chongqiu (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

瞻彼崇丘 積土成高 相假大海 積水成濤
卷石積多 其形嵯峨 勺水積久 勢若江河
寶藏貨財 靡所不足 積善之家 必有餘福
鳥獸魚龍 咸遂其性 積善之家 必有餘慶

Translations

1. I look at the nearby hills, and realize it is getting quite high. Similarly, the sea is getting big, and there are big waves.
2. When stones of different shapes accumulate, they form different kinds of hills. When buckets of water are added together, they can form a river.
3. No matter how much treasure one keeps, one will never be satisfied; the family which performs good deeds will have excess fortunes.
4. Living creatures such as birds, animals, fish and dragons behave according to their own instincts, while the family which performs good deeds will have excess joy.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.15-16

Nanshan youtai (In zhi mode of huangzhong, each stanza begins and ends on
linzhong)

(huangzhong = C)

南山有台 北山有栢 樂只君子 邦家之基
樂只君子 萬壽無期 南山有桑 北山有楊
樂只君子 邦家之光 樂只君子 萬壽無疆
南山有杞 北山有李 樂只君子 民之父母
樂只君子 德音不已 南山有栲 北山有杻
樂只君子 遐不作眉壽 樂只君子 德音是茂
南山有枸 北山有楸 樂只君子 遐不作耆
樂只君子 保艾爾後

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.16-17

Youyi (In zhi mode of huangzhong, each stanza begins and ends on linzhong)

(huangzhong = C)

肅肅令儀君子由之秩秩羣倫君子求之
率性之道君子脩之何謂羣倫父子有親
君臣有義朋友有信兄愛弟敬天和是順
无令臣恭父慈子孝夫妻相敬兄弟相好
至于朋友無德不報維物有則維民莫不
好斯美德曰此令儀上和下睦晬晬熙熙

Translations

1. The gentleman should have his own set of moral conduct. He should try his best to maintain the social order of the state, and be at all times vigilant of his behaviour.
2. The essence of social order is: father and son should maintain a close relationship, Emperor and minister should have righteousness, friends should have trust, brothers should have love, and husband and wife should have harmony.
3. Ministers should pay respect to the orders of the Emperor. The son should appreciate the kindness of his father. Husband and wife should respect one another. Brother should maintain a good relationship. One should be generous to friends and be grateful for any kindness from other people.
4. There is a way to keep myriad things in order, and also a way to maintain order in the state. If only good things are done, then people of different hierarchies will be in order, and the state will be prosperous and harmonious.

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.18-19

Guansui (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)



關關雎鳩在河之洲窈窕淑女君子好逑
參差荇菜左右流之窈窕淑女寢寐求之
求之不得寢寐思服悠哉悠哉輾轉反側
參差荇菜左右采之窈窕淑女琴瑟友之
參差荇菜左右芼之窈窕淑女鐘鼓樂之

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.19-20

Quechao (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)

維鵲有巢 維鳩居之 之子于歸 百兩御之

維鵲有巢 維鳩方之 之子于歸 百兩將之

維鵲有巢 維鳩盈之 之子于歸 百兩成之

Zhu Zaiyu: Lulu jingyi waipian 7.20-21

Getan (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)

葛之覃兮 施于中谷 維葉萋萋 黃鳥于飛

集于灌木 其鳴喈喈 葛之覃兮 施于中谷

維葉萋萋 是刈是穫 為絺為絺 服之無斁

言告師氏 言告言歸 薄汙我私 薄澣我衣

言澣言否 歸寧父母

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.21-22

Caifan (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)

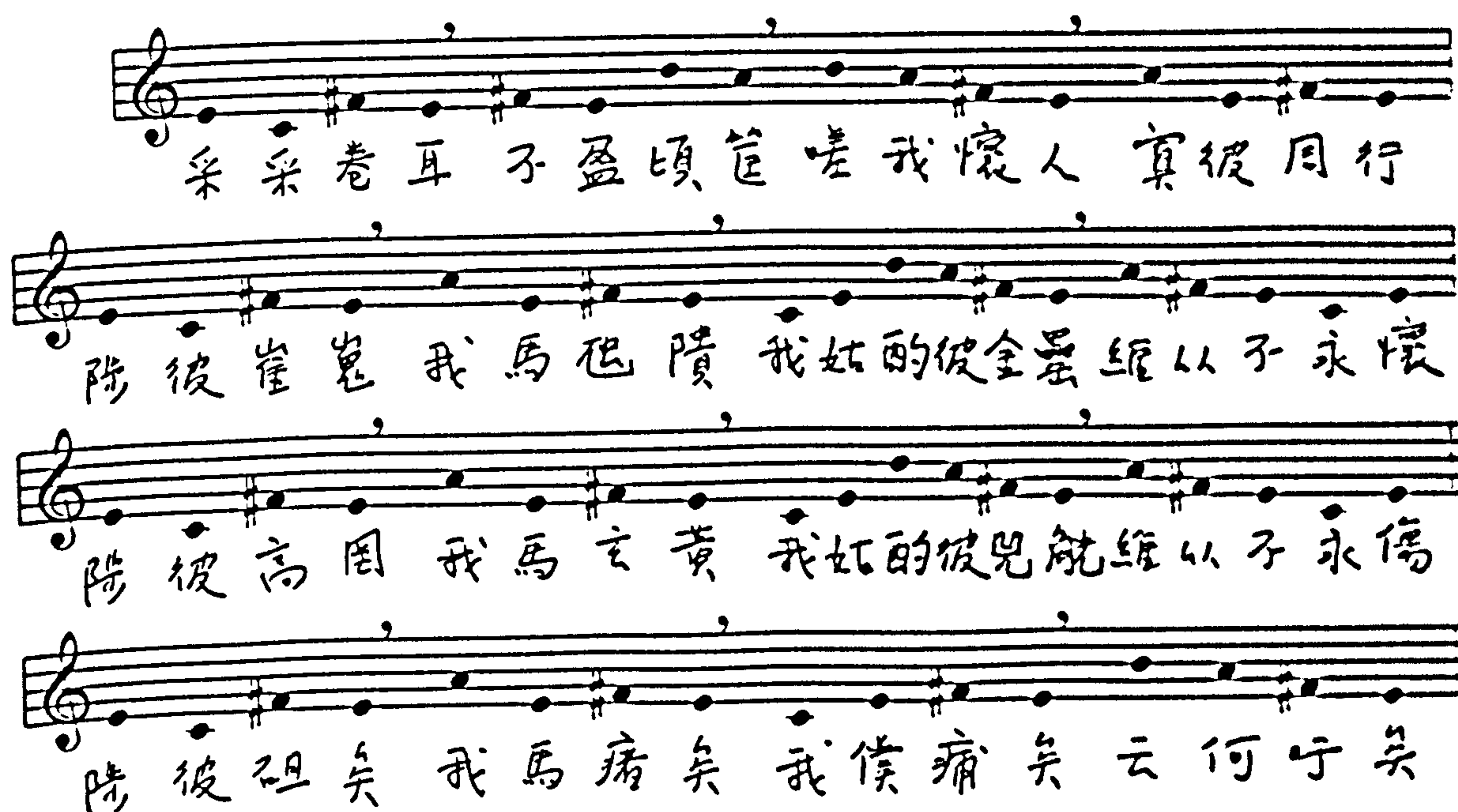


于以采芣于沼于沚于以用之公侯之事
于以采芣于澗之中于以用之公侯之宮
被之僮僮夙夜在公被之祁祁薄言還歸

Zhu Zaiyu: Lulu jingyi waipian 7.22-23

Juan'er (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)



采采卷耳不盈頃筐嗟我懷人寘彼周行
陟彼崔嵬我馬虺隤我姑酌彼金罍維以不永懷
陟彼高岡我馬玄黃我姑酌彼兕觥維以不永傷
陟彼砠矣我馬瘠矣我僕痡矣云何吁矣

Appendix 6

Zhu Zaiyu: Lulu jingyi waipian 7.23

Caipin (In jue mode of huangzhong, each stanza begins and ends on guxian)

(huangzhong = C)



于以采蘋南澗之濱于以采藻于彼行潦
于以威之維筐及筥于以湘之維錡及釜
于以奠之宗室牖下誰其尸之有齊季女

Appendix 7

Lulu zhengyi houbian 55.9a-9b

Luming (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

呦呦鹿鳴食野之苹我有嘉賓鼓瑟吹笙
吹笙鼓簧承筐是將人之好我示我周行
呦呦鹿鳴食野之蒿我有嘉賓德音孔昭
視民不忮君子是則是傲我有旨酒
嘉賓式燕以敖呦呦鹿鳴食野之芩
我有嘉賓鼓瑟鼓琴鼓瑟鼓琴和樂且湛
我有旨酒以燕樂嘉賓之心

Appendix 7

Lulu zhengyi houbian 55.12a-12b

Simu (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

四牡駉駉周道倭遲豈不懷歸王事靡盬
我心傷悲四牡駉駉嘽嘽騶馬豈不懷歸
王事靡盬不遑啟處翩翩者騅載飛載下
集于苞栩王事靡盬不遑將父翩翩者騅
載飛載止集于苞杞王事靡盬不遑將母
駕彼四騶載驟駸駸豈不懷歸是用作歌
將母來諗

Appendix 7

Lulu zhengyi houbian 55.15a-15b

Huang huang zhe hua (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

皇皇者華 于彼原隰 駉駉征夫 每懷靡及

我馬維駒 六轡如濡 載馳載驅 周爰咨諏

我馬維駒 六轡如絲 載馳載驅 周爰咨謀

我馬維駒 六轡次若 載馳載驅 周爰咨度

我馬維駒 六轡既均 載馳載驅 周爰咨詢

Appendix 7

Lulu zhengyi houbian 55.24a-24b

Yuli (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

The musical score consists of five staves of music in a single system. Each staff begins with a treble clef and a key signature of one flat (B-flat). The notes are written on a five-line staff. Below each staff is a line of Chinese text in traditional characters. The text is: 魚麗于罍 鱉 鱉 君子有酒 旨且多 (Staff 1); 魚麗于罍 鱉 鱉 君子有酒 多且旨 (Staff 2); 魚麗于罍 鱉 鱉 君子有酒 旨且 有 (Staff 3); 物其多矣 維其褻矣 物其旨矣 維其 偕矣 (Staff 4); 物其有矣 維其時矣 (Staff 5). The text is written in a traditional calligraphic style.

魚麗于罍 鱉 鱉 君子有酒 旨且多

魚麗于罍 鱉 鱉 君子有酒 多且旨

魚麗于罍 鱉 鱉 君子有酒 旨且 有

物其多矣 維其褻矣 物其旨矣 維其 偕矣

物其有矣 維其時矣

Appendix 7

Lulu zhengyi houbian 55.28a-28b

Nanyou jiayu (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



The musical score consists of four staves, each with a treble clef and a key signature of one flat (B-flat). The notes are written in a style that combines Western musical notation with traditional Chinese notation. The lyrics are written in Chinese characters below each staff.

南有嘉魚 熙然罩罩 君子有酒 嘉賓式燕以樂

南有嘉魚 熙然汕汕 君子有酒 嘉賓式燕以行

南有樛木 甘瓠累之 君子有酒 嘉賓式燕綏之

翩翩者騅 熙然來思 君子有酒 嘉賓式燕又思

Appendix 7

Lulu zhengyi houbian 55.32a-32b

Nanshan youtai (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



南山有臺 北山有萊 樂只君子 邦家之基

樂只君子 萬疆無期 南山有桑 北山有楊

樂只君子 邦家之光 樂只君子 萬壽無疆

南山有杞 北山有李 樂只君子 民之父母

樂只君子 德音不已 南山有栲 北山有杻

樂只君子 遐不作 樂只君子 德音是茂

南山有枸 北山有楸 樂只君子 遐不作

樂只君子 保艾爾後

Appendix 7

Lulu zhengyi houbian 55.37a-37b

Guanju (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

關關雎鳩在河之洲窈窕淑女君子好逑
參差荇菜左右流之窈窕淑女寤寐求之
求之不得寤寐思服悠哉悠哉輾轉反側
參差荇菜左右采之窈窕淑女琴瑟友之
參差荇菜左右芣之窈窕淑女鐘鼓樂之

Appendix 7

Lulu zhengyi houbian 55.41a-41b

Getan (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

葛之覃兮施于中谷維葉萋萋黃鳥于飛
集于灌木其鳴嘒嘒葛之覃兮施于中谷
維葉萋萋是刈是穫為絺為絺服之無斁
言告師氏言告言歸薄污我私薄澣我衣
言澣言否歸寧父母

Appendix 7

Lulu zhengyi houbian 55.44a-44b

Juan'er (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



采采卷耳 不盈頃筐 嗟我懷人 寔彼周行
 陟彼崔嵬 我馬虺隤 隕我姑酌 彼金蟲
 維以不永懷 陟彼高岡 我馬元黃
 我姑酌彼兕觥 維以不永傷 陟彼砠矣
 我馬瘠矣 我僕痡矣 云何吁矣

Lulu zhengyi houbian 55.47a

Quechao (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



維鵲有巢 維鳩居之 之子于歸 百兩御之
 維鵲有巢 維鳩方之 之子于歸 百兩御之
 維鵲有巢 維鳩盈之 之子于歸 百兩成之

Appendix 7

Lulu zhengyi houbian 55.49a

Caifan (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



于 以 采 蘋 于 沼 于 沚 于 以 用 之
 公 侯 之 事 于 以 采 蘋 于 澗 之 中
 于 以 用 之 公 侯 之 宮 被 之 僮 僮
 夙 夜 在 公 被 之 祁 祁 薄 言 還 歸

Lulu zhengyi houbian 55.51a

Caipin (Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



于 以 采 蘋 南 澗 之 濱 于 以 采 蘋
 于 彼 行 潦 于 以 威 之 維 筵 足 旨
 于 以 湘 之 維 錡 及 釜 于 以 奠 之
 宗 室 牖 下 誰 其 尸 之 有 齊 季 女

Appendix 8

Lulu zhengyi houbian 127.11a-11b

District Drinking Ceremony: Sheng Introduction

(Taizou as gong, begins with lower wuyi as yu)

(huangzhong = C)



Appendix 8

Lulu zhengyi houbian 127.11b-12b

Nangai (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

我逝南陔，言陟其岵，昔我行役，瞻望有父，

欲養無由，風木何補，我逝南陔，言陟其岵，

今我行役，瞻望有母，母也倚廬，歸則寧止

南陔有苞，籜實攸之，蓍蓍族提，孰與咻之，

煩爾溫情，潔爾旨肴，今爾予養，日月其怡

Nangai

Translations

1. I go through the southern hills by the fields, and reach their tops. This is the way I know very well, as I can still recall the days when my father was alive. Now he is dead, and I cannot be a pious son even though the wind and woods are still there.
2. I go through the southern hills by the fields, and reach their bare tops. This is the way I now take, and I can still see my mother. She has a home to go to, where she will spend her peaceful years.
3. The southern hills by the fields have young bamboo shoots, but they have to have their skins peeled. An offspring needs to be looked after carefully, yet he still cries. His parents contribute their sincere love, and have to ensure the food is prepared well. Now such parental care is gone forever, but the sun and moon remain the same.

Appendix 8

Lulu zhengyi houbian 127.12b-14a

Baihua (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

有白華者，不污纖塵，咨爾士今，宜修其身，

不修其身，乃貶羞于二人有白華者，婉孌靜好，

咨爾女今，宜修婦道，不修婦道，乃貶羞于二老

白華匪玉，溫而不緇，白華匪蘭，芬乃勝之，

我頌白華，我咏載思，白華匪玉，實玉之令，

白華匪蘭，其蘭之浮，我頌白華，載思載咏

Baihua

Translations

1. There are white flowers which are free from dust. One would advise a gentleman to develop a virtuous character. Otherwise, he will feel ashamed in front of his parents.
2. There are white flowers which are beautiful and peaceful. One would advise a woman to maintain her moral standards. Otherwise, she will feel ashamed in front of the two senior family members.
3. Unlike jade, the colour of white flowers will not darken. Unlike orchards, white flowers are more fragrant. I cut these white flowers in order to recall my respect to my parents.
4. Unlike jade, white flowers are of a purer quality. Unlike orchards, white flowers smell more purely. I cut these white flowers in order to recall my respect to my parents.

Appendix 8

Lulu zhengyi houbian 127.14b-15b

Huashu (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

瞻彼阪田，顧黍始華，胼足胼手，嗟嗟我農夫

瞻彼阪田，黍華以秀，胼手胼足，惟勤斯殖茂

華有實矣，華有實矣，其雨其雨，杲杲日出矣，

愁予愁之恆矣

Translations

1. I look at these fields on a slope and can see the corns are beginning to flower. My dear farmer, you work so hard that your hands and feet have developed hard skins.
2. I look at these fields on a slope and can see the corns are flowering well. The hands and feet of the farmer have developed hard skins, yet this is the only way to have a good harvest.
3. Some of the flowers do not look well, and, as a result, there are plants without corns. He worries about rain and sunlight, and needs to be comforted.

Appendix 8

Lulu zhengyi houbian 127.15b-16b

Yougeng (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

王庚便便, 東西朔南, 六符調變, 八風節宣

王庚容容, 朔南西東, 惟敬與勤, 有王道同

王庚廊廊, 東西南朔, 先憂而憂, 後樂而樂

王庚恢恢, 南朔東西, 皇極孰建, 惟德之依

Yougeng

Translations

1. The state is in a good order if the Emperor feels he can relax, and the four directions will respond favourably to it. So will the six diagrams and eight types of wind.
2. The state is in a good order if the Emperor is at ease, and the four directions will respond favourably to it. He will respect his position and work hard, so as to set a good example to the other smaller states.
3. The state is in a good order if the Emperor feels he is not pressed, and the four directions will respond favourably to it. He will be the first to worry if his people suffered, and will be the last to enjoy himself if the state prospered.
4. The state is in a good order if the Emperor feels he is spacious, and the four directions will respond favourably to it. He will try his best to build up a moral standard so that his people can follow.

Appendix 8

Lulu zhengyi houbian 127.16b-18a

Chongqiu (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

潤松童童, 跼蹐今, 丘草萋萋, 蕩青雲今.

凡百君子, 慎乃託身今, 潤松童童, 潤則卑今.

丘草萋萋, 丘則崎今, 凡百君子, 害乃所依今.

有崇者丘, 物無不遂, 有卓者道, 思無不智.

資生育德, 永植無替.

Chongqiu

Translations

1. The frogs feel sorry for the stream below the hill. The grass plants at the hilltop are growing well and blown by the wind, as if they were in the sky. The gentlemen have to be careful who they dedicate their service to.
2. The stream knows it is of little significance, because it lies below the hill. The grass plants at the hilltop are growing well, and the hill has an irregular outline. The gentlemen have to be careful in choosing their masters.
3. If there is a respectable person in high office, myriad things will be in good order. If there is an outstanding person in charge of leadership, even the stupid will become wise. The important thing is to cultivate a virtuous personality, which can never be replaced.

Appendix 8

Lulu zhengyi houbian 127.18a-18b

Youyi (With sheng part)

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)

Instrumental

Vocal

在上曰天, 在下曰地, 无君臣民, 父父子子

在下曰地, 在上曰天, 父父子子, 无君臣民

由其儀矣, 物則熙矣, 儀其由矣, 物則休矣

Youyi

Translations

1. What is high is called heaven; what is low is called earth. The order is Emperor, minister, father, and son.
2. What is low is called earth; what is high is called heaven. The order is father, son, Emperor and minister.
3. When there is a good moral conduct, matter will be abundant in the state. If this is not the case, the state will be in shortage of supplies.

Appendix 8

Lulu zhengyi houbian 127.18b-19a

District Drinking Ceremony: Sheng Conclusion

(Taicou as gong, begins with lower wuyi as yu)

(huangzhong = C)



Appendix 9

Wang Xuan: Yujing lulu tongjie 5.10b-11a

Nie Shuangjiang's Music: Guanju

(huangzhong = C)



關關雎鳩在河之洲窈窕淑女君子好逑
參差荇菜左右流之窈窕淑女寤寐求之
求之不得寤寐思服悠哉悠哉輾轉反側
參差荇菜左右采之窈窕淑女琴瑟友之
參差荇菜左右芼之窈窕淑女鐘鼓樂之

Appendix 9

Wang Xuan: Yujing lulu tongjie 5.11a-11b

Nie Shuangjiang's Music: Getan

(huangzhong = C)



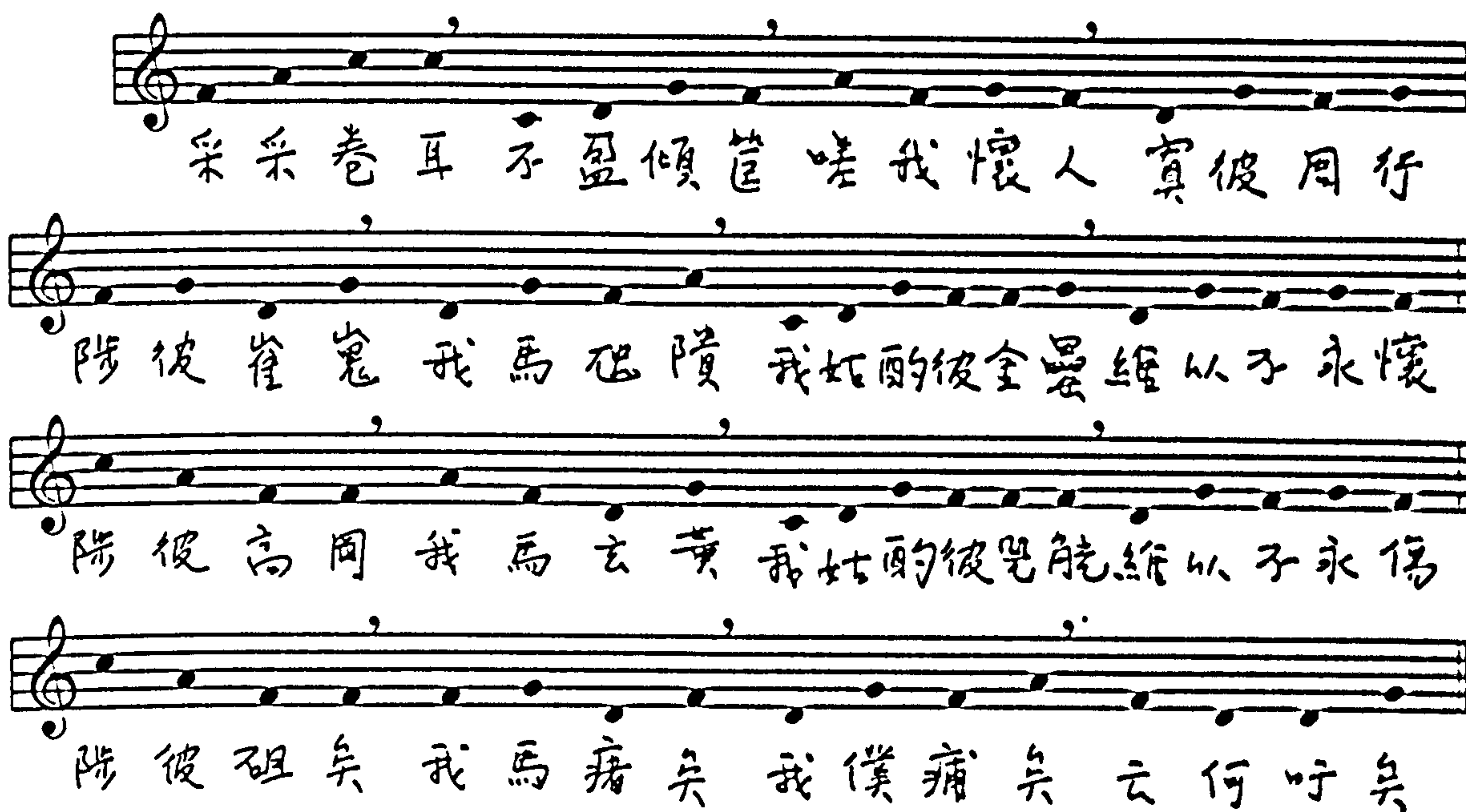
葛之覃兮 施于中谷 維葉萋萋 黃鳥于飛
集于灌木 其鳴嘒嘒 葛之覃兮 施于中谷
維葉莫莫 是刈是穫 為絺為綌 服之無斁
言告師氏 言告言歸 薄污我私 薄澣我衣
害澣害否 歸寧父母

Appendix 9

Wang Xuan: Yujing lulu tongjie 5.11b-12a

Nie Shuangjiang's Music: Juan'er

(huangzhong = C)



采采卷耳 不盈頃筐 嗟我懷人 寘彼周行
陟彼崔嵬 我馬虺隤 我姑酌彼金罍 維以不永懷
陟彼高岡 我馬玄黃 我姑酌彼兕觥 維以不永傷
陟彼砠矣 我馬瘠矣 我僕痡矣 云何吁矣

Wang Xuan: Yujing lulu tongjie 5.12a-12b

Nie Shuangjiang's Music: Quechao

(huangzhong = C)



維鵲有巢 維鳩居之 之子于歸 百兩御之
維鵲有巢 維鳩方之 之子于歸 百兩御之
維鵲有巢 維鳩盈之 之子于歸 百兩成之

Appendix 9

Wang Xuan: Yujing lulu tongjie 5.12b-13a

Nie Shuangjiang's Music: Caifan

(huangzhong = C)

于以采蘋 于沼于沚 于以用之 公侯之事
于以采蘋 于澗之中 于以用之 公侯之宮
被之僮僮 夙夜在公 被之祈祈 薄言還歸

Wang Xuan: Yujing lulu tongjie 5.13a

Nie Shuangjiang's Music: Caipin

(huangzhong = C)

于以采蘋 南澗之濱 于以采藻 于彼行潦
于以威之 維筐及筥 于以湘之 維綈及釜
于以奠之 宗室牖下 誰其尸之 有齊季女

Appendix 10

Wang Xuan: Yuejing lulu tongjic 5.15a-15b

Newly Composed Piece: Guanju (In zhi mode of jiazhong)

(huangzhong = C, bian pitches indicated by "x")

關關雎鳩在河之洲窈窕淑女君子好逑

參差荇菜左右流之窈窕淑女寢寐求之

求之不得寢寐思服悠哉悠哉輾轉反側

參差荇菜左右采之窈窕淑女琴瑟友之

參差荇菜左右芼之窈窕淑女鐘鼓樂之

Appendix 10

Wang Xuan: Yuejing lulu tongjic 5.15b-16a

Newly Composed Piece: Getan (In gong mode of huangzhong)

(huangzhong = C)

葛之覃兮施于中谷維葉萋萋黃鳥于飛
集于灌木其鳴喈喈葛之覃兮施于中谷
維葉萋萋是刈是穫為絺為綌服之無斁
言告師氏言告言歸薄汚我私薄澣我衣
言澣言否歸寧父母

Appendix 10

Wang Xuan: Yuejing lulu tongjie 5.16a-17a

Newly Composed Piece: Juan'er (In shang mode of wuyi)

(huangzhong = C, bian pitches indicated by "x")

采采卷耳不盈頃筐嗟我懷人寔彼周行

陟彼崔嵬我馬虺隤我姑酌彼金罍維以不永懷

陟彼高岡我馬玄黃我姑酌彼兕觥維以不永傷

陟彼砠矣我馬瘠矣我僕痡矣云何吁矣

Wang Xuan: Yuejing lulu tongjie 5.17a-17b

Newly Composed Piece: Quechao (In zhi mode of wuyi)

(huangzhong = C, bian pitches indicated by "x")

維鵲有巢維鳩居之之子于歸百兩御之

維鵲有巢維鳩方之之子于歸百兩將之

維鵲有巢維鳩盈之之子于歸百兩成之

Appendix 10

Wang Xuan: Yuejing lulu tongjie 5.17b-18a

Newly Composed Piece: Caifan (In gong mode of dalü)

(huangzhong = C, bian pitches indicated by "x")

于以采蘋 于沼于沚 于以用之 公侯之事

于以采蘋 于澗之中 于以用之 公侯之宮

被之僮僮 夙夜在公 被之祈祈 薄言還歸

Wang Xuan: Yuejing lulu tongjie 5.18a

Newly Composed Piece: Caipin (In shang mode of jiazhong)

(huangzhong = C, bian pitches indicated by "x")

于以采蘋 南澗之濱 于以采藻 于彼行潦

于以威之 維箎及箎 于以湘之 維箎及箎

于以奠之 宗室牖下 誰其尸之 有齊季女

Appendix 11

Wang Xuan: Yuejing lulu tongjie 5.18b-19b

A qin piece: Luming

(huangzhong = C)



呦呦鹿鳴食野之苹我有嘉賓
 鼓瑟吹笙吹笙鼓簧承筐是將
 人之好我示我周行呦呦鹿
 鳴食野之蒿我有嘉賓德音孔昭
 示民不佻君子是則是傲我有旨酒
 嘉賓式燕以敖呦呦鹿鳴食野之苓
 我有嘉賓鼓瑟鼓琴鼓瑟鼓琴
 和樂且湛我有旨酒以燕樂嘉賓之心

Appendix 12

Wang Xuan: Yuejing lulu tongjie 5.20b-21a

Newly Composed Piece: Luming (In gong mode of huangzhong)

(huangzhong = C)

呦呦鹿鳴食野之苹我有嘉賓

鼓瑟吹笙吹笙鼓簧承筐是將

人之好我示我周行呦呦鹿鳴

食野之蒿我有嘉賓德音孔昭

示民不佻君子是則是微我有旨酒

嘉賓式燕以敖呦呦鹿鳴食野之苓

我有嘉賓鼓瑟鼓琴鼓瑟鼓琴

和樂且湛我有旨酒以燕樂嘉賓之心

Appendix 13

Shijing yuepu quanshu 15.1a-6b

Luming (Guxian as gong, begins with huangzhong as yu)

(huangzhong = C)



呦呦鹿鳴 食野之苹 我有嘉賓 鼓瑟吹笙
 吹笙鼓簧 承筐是將 人之好我 示我周行
 呦呦鹿鳴 食野之蒿 我有嘉賓 德音孔昭
 視民不忮 君子是則是效 我有旨酒 嘉賓式燕以敖
 呦呦鹿鳴 食野之芣 我有嘉賓 鼓瑟鼓琴
 鼓瑟鼓琴 和樂且湛 我有旨酒 以燕樂嘉賓之心

Appendix 13

Shijing yuepu quanshu 15.6b-12a

Simu (Guxian as gong, begins with huangzhong as yu)

(huangzhong = C)

四牡駉駉 周道倭遲 豈不懷歸 王事靡盬
我心傷悲 四牡駉駉 嘒嘒駉馬 豈不懷歸
王事靡盬 不遑啟處 翩翩者騅 載飛載下
集于苞栩 王事靡盬 不遑將父 翩翩者騅
載飛載止 集于苞杞 王事靡盬 不遑將母
駕彼四駉 載驟駿駿 豈不懷歸 是用作歌
將母來詒

Appendix 13

Shijing yuepu quanshu 15.12b-17a

Huang huang zhe hua (Zhonglu as gong, begins with dalu as yu)

(huangzhong = C)



皇皇者華 于彼原隰 駉駉征夫 每懷靡及

我馬維駒 六轡如濡 載馳載驅 周爰咨諏

我馬維駒 六轡如絲 載馳載驅 周爰咨謀

我馬維駒 六轡沃若 載馳載驅 周爰咨度

我馬維駒 六轡既均 載馳載驅 周爰咨詢

Appendix 13

Shijing yuepu quanshu 15.62a-66a

Nangai (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)

我逝南陔言陟其岵昔我行役瞻望有父
欲養無由風木何補我逝南陔言陟其岵
今我行役瞻望有母母也倚廬歸則甯止
南陔有荀箴實兮之孱孱孩提孰與休之
慎爾溫清潔爾旨肴今爾不養日月其愆

Appendix 13

Shijing yuepu quanshu 16.1a-6b

Baihua (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)



有白者華不污纖塵咨爾士兮宜修其身
 不修其身乃貶羞於二人有白者華婉茲靜好
 咨爾女兮宜修婦道不修婦道乃貶羞於二老
 白華匪玉涅而不緇白華匪蘭芬乃勝之
 我摯白華載咏載思白華匪玉質玉之令
 白華匪蘭臭蘭之淨我摯白華載思載詠

Appendix 13

Shijing yuepu quanshu 16.6b-10b

Huashu (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)



瞻彼阪田 顧黍稷 芾芾足胼手
嗟嗟我農 天瞻彼阪田 黍稷以芳
胼手芾足 惟勤斯殖 芾稷有不秀矣
秀有不實矣 其雨其雨矣 杲杲日出矣
怒予愁之 恤矣

Shijing yuepu quanshu 16.10b-14b

Yuli (Guxian as gong, begins with huangzhong as yu)

(huangzhong = C)



魚麗于罍 鱉君子有酒 旨且多 魚麗于罍 魴鯉
君子有酒 多且旨 魚麗于罍 魴鯉 君子有酒 旨且有
物其多矣 維其嘉矣 物其旨矣 維其備矣
物其有矣 維其時矣

Appendix 13

Shijing yuepu quanshu 16.15a-18b

Yougeng (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)

王 度 便 便 東 西 朔 南 六 符 調 變
八 風 節 宣 王 度 容 容 朔 南 西 東
惟 敬 與 勤 百 王 道 同 王 度 廓 廓
東 西 南 朔 先 憂 而 憂 後 樂 而 樂
王 度 恢 恢 南 朔 東 西 皇 極 執 建
惟 德 之 依

Appendix 13

Shijing yuepu quanshu 16.18b-23a

Nanyou jiayu (Guxian as gong, begins with huangzhong as yu)

(huangzhong = C)



南有嘉魚 烝然罩罩 君子有酒

嘉賓式燕以樂 南有嘉魚 烝然汕汕

君子有酒 嘉賓式燕以衍 南有樛木

甘瓠累之 君子有酒 嘉賓式燕綏之

翩翩者鵲 烝然來思 君子有酒

嘉賓式燕又思

Appendix 13

Shijing yuepu quanshu 16.23a-27a

Chongqiu (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)

澗松童童蛭黽鄰兮丘草萋萋蕩青雲兮

凡百君子慎乃託身兮澗松童童

澗則卑兮丘草萋萋丘則崎兮凡百君子

審乃所依兮有崇者丘物無不遂有卓者道

愚無不智資生育德永植無替

Appendix 13

Shijing yuepu quanshu 16.27b-33a

Nanshan youtai (Guxian as gong, begins with huangzhong as yu)

(huangzhong = C)



南山有台 北山有萊 樂只君子 邦家之基 樂只君子 萬壽無期 南山有桑
北山有楊 樂只君子 邦家之光 樂只君子 萬壽無疆 南山有杞 北山有李 樂只君子
民之父母 樂只君子 德音不已 南山有栲 北山有杻 樂只君子 遐不作眉壽 樂只君子
德音是茂 南山有枸 北山有楸 樂只君子 遐不作黃耇 樂只君子 保艾爾後

Appendix 13

Shijing yuepu quanshu 16.23b-26b

Youyi (Huangzhong as gong, begins with lower yize as yu)

(huangzhong = C)

在 上 曰 天 在 下 曰 地 君 君 臣 臣
父 父 子 子 在 下 曰 地 在 上 曰 天
父 父 子 子 君 君 臣 臣 由 其 儀 矣
物 其 熙 矣 儀 其 由 矣 物 則 休 矣

Appendix 13

Shijing yuepu quanshu 1.1a-4b

Guanju (Dalu as gong, begins with lower nanlu as yu)

(huangzhong = C)



關關雎鳩在河之洲窈窕淑女
君子好逑參差荇菜左右流之
窈窕淑女寤寐求之求之不得
寤寐思服悠哉悠哉輾轉反側
參差荇菜左右采之窈窕淑女
琴瑟友之參差荇菜左右芣之
窈窕淑女鐘鼓樂之

Appendix 13

Shijing yuepu quanshu 1.5a-8a

Getan (Dalu as gong, begins with lower nanlu as yu)

(huangzhong = C)

葛之覃兮施于中谷維葉萋萋
黃鳥于飛集于灌木其鳴喈喈
葛之覃兮施于中谷維葉莫莫
是刈是穫為絺為綌服之無斁
言告師氏言告言歸薄污我私
薄澣我衣官泮官否歸甯父母

Appendix 13

Shijing yuepu quanshu 1.8b-12b

Juan'er (Dalu as gong, begins with lower nanlu as yu)

(huangzhong = C)



采采卷耳不盈頃筐嗟我懷人實彼周行
 陟彼崔嵬我馬虺隤我姑酌彼金罍
 維以不永懷陟彼高岡我馬玄黃
 我姑酌彼兕觥維以不永傷陟彼砠矣
 我馬瘠矣我僕痡矣云何吁矣

Shijing yuepu quanshu 2.1a-3b

Quechao (Jiazhong as gong, begins with lower yingzhong as yu)

(huangzhong = C)



維鵲有巢維鳩居之之子于歸百兩御之
 維鵲有巢維鳩方之之子于歸百兩將之
 維鵲有巢維鳩盈之之子于歸百兩成之

Appendix 13

Shijing yuepu quanshu 2.3b-6b

Caifan (Jiazhong as gong, begins with lower yingzhong as yu)

(huangzhong = C)



于以采芣于沼于沚于以用之
公侯之事于以采芣于澗之中
于以用之公侯之宮被之僮僮
夙夜在公被之祁祁薄言還歸

Shijing yuepu quanshu 2.10b-13b

Caipin (Jiazhong as gong, begins with lower yingzhong as yu)

(huangzhong = C)



于以采蘋南澗之濱于以采藻于彼行潦
于以盛之維管及筥于以湘之維錡及釜
于以奠之宗室牖下誰其尸之有齊季女

Appendix 14

Folk Melody: Wannian huan (Joy Lasting Ten Thousand Years)

